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ABSTRACT

This study on educational technology in Northern Ireland focuses on the ways in which the resources, human and material, of the Province could be used more effectively. The report comprises two main sections: Part One: Recommendations for Coordinating and Developing Educational Technology in Northern Ireland; and Part Two: Current and Planned Arrangements for Educational Technology in Northern Ireland, containing the detailed information and expressed needs from which the recommendations in Part One are derived. A detailed examination of the aims and the processes of educational technology within the Northern Ireland educational system gives strong grounds for supporting the view that there is considerable scope for improving the professional support services and for the coordination of activities in three main categories: technical, information, and creative. It is also evident that the problems and the solutions lie at three levels within the education system: at the classroom, local, and regional levels. The study has raised fundamental questions about the relationships between educational technology, curriculum renewal, educational research and development, and in-service training, activities which often follow independent lines of action even when their interests so clearly overlap or have implications for one another. These problems might be resolved if the wider concept of 'educational development' could be embraced, i.e., a merger between curriculum development (the process) and educational technology (the means). (Author/RAO)

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FEASIBILITY STUDY ON THE ORGANIZATION OF EDUCATIONAL TECHNOLOGY IN NORTHERN IRELAND

A Report to the
Council for Educational Technology

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C R Latchem

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PREFACE

This study has its origins in the consideration by those concerned with educational technology in Northern Ireland of the ways in which the resources, human and material, of the Province could be used more effectively. It is right that this statement should stand at the head of this preface, because this is essentially a report on Northern Ireland, for Northern Ireland.

At the same time, one of the distinguishing features of the Council for Educational Technology is that it is a Council for the United Kingdom. Thus, when the need for the study was established, it was appropriate that the Council, as a United Kingdom body, should undertake it. The report is, in a formal sense, to the Council; the Council offers it to those whom it concerns in Northern Ireland, along with an assurance of continuing interest and cooperation in the ensuing developments.

There is a more personal aspect. We are fortunate in having the services of Mr Colin Latchem as investigator, and are grateful to the Principal of Stranmillis College for making him available to us. The range and thoroughness of his report is the best measure of how fortunate we were: it is a fine achievement by any standards and hard to credit that the starting date was only April 1977. In connection with this investigation, my colleagues and I have had four separate sets of meetings with representatives of the Education and Library Boards, the Northern Ireland Committee for Educational Technology, officials of the Department of Education and representatives of the Northern Ireland Council for Educational Research and the Schools Curriculum Committee. These meetings have been stimulating and encouraging; the combination of enthusiasm and practical good sense which were manifested is a foundation upon which sound development can be based.

I hope nobody will be deceived by the studious moderation of Mr Latchem's style. He has looked with penetration at what already exists in Northern Ireland and has set out with simple clarity what could be done with little or no additional resources. If his suggestions are adopted, however, they will in some ways put the Province in a leading position, making it a front runner in the organization of educational development. I hope the Council for Educational Technology will be able to help those primarily involved to bring this about.

Geoffrey Hubbard
Director
Council for Educational Technology

November 1977

SOME TERMS DEFINED

Some definitions may be used to make clear the sense in which certain key terms are employed in this report.

Educational technology – a systematic application of relevant knowledge, techniques and resources to increase the effectiveness of learning. Its strengths lie in openness, that is, a reliance on stated and agreed aims and criteria and on reasoned decisions and procedures, which are accessible to objective evaluation techniques. (CET 1977)

Curriculum – an attempt to communicate the essential principles and features of an educational proposal in such a form that it is open to critical scrutiny and capable of effective translation into practice. (Stenhouse 1975)

Resource – anything which may be an object of study or stimulus for the pupil, including books, periodicals, newspapers, press cuttings, pictures, diagrams, maps, charts, photocopies and microforms, worksheets, slides, filmstrips, film loops, films, records, audio-tapes, radio and television programmes, videotapes, slide-tape and filmstrip-record combinations, multi-media kits, programmed materials, models, specimens and realia, as well as individuals and objects in the community. Some people would also include zoological and botanical living items. (Schools Council 1972)

A resource centre – an agency for stimulating the active creation and use of a resource collection, including the six elements of:

(a) production of resources
(b) selection and acquisition of resources made elsewhere
(c) classification and indexing for retrieval
(d) storage
(e) use, including guidance, lending, etc
(f) evaluation and weeding.

The items and activities coordinated by a resource centre need not always be centralized in one place, although there are often advantages in such a concentration. (Schools Council 1972)

INTRODUCTION

Genesis of the Report

In 1974 the Department of Education for Northern Ireland (DENI) established the Northern Ireland Committee for Educational Technology (NICET) under the chairmanship of Dr W F K Kerr, Principal of the City of Belfast College of Technology. NICET's remit is to act as a regional forum and to advise on matters pertaining to educational technology.

NICET's committee members represent all levels of education as well as the industrial and professional training sectors. NICET works closely with the Council for Educational Technology for the United Kingdom (CET) and useful links have also been formed between NICET and the Scottish Council for Educational Technology.

Through its various activities NICET seeks to encourage and support the idea that educational technology is far more than the use of educational aids, valuable as these may be; rather, that it is a systematic application of relevant knowledge, techniques and resources to increase the effectiveness of learning.

NICET's aims are:

(i) to promote understanding of the effective use and potential of educational technology in education and training

(ii) to establish links between individuals, institutions and authorities for the purpose of disseminating information on educational technology

(iii) to identify the needs for educational technology in education and training, to seek solutions and to assist in the implementation of these solutions

During its first two years, NICET, through its various subcommittees, examined developments in educational technology within the Province, paying particular attention to the pre- and in-service training of teachers, the information and advisory services and the provisions for equipment and materials. The NICET members were encouraged by increasing interest and activity in educational technology in the various sectors but at the same time they saw a distinct need for some form of coordination and clearly definable network. Without these, new opportunities for teaching and learning might be overlooked, developments might not be sustained and resources might be under-utilized or unnecessarily duplicated.

In June 1976 NICET submitted a report entitled 'Planning for Educational Technology in Northern Ireland' to DENI. The main recommendation in this report was that DENI should consider the possibility of establishing a regional centre which could act as a

focal point for educational technology in the Province. It was envisaged that such a centre could be established with the full support and backing of DENI, the Area Education and Library Boards, the Northern Ireland Training Executive and other interested bodies, and it was intended that the centre would work in close conjunction with the colleges and departments of education and the teachers' centres.

The submissions of this report were reinforced by two contingencies. In March 1976, at the invitation of DENI and the Area Education and Library Boards, CET held a seminar for senior educational administrators and members of the Northern Ireland Inspectorate. This stimulated further discussion about educational technology and its relevance in a time of educational change and economic stringency and about the rationalization of resources on an area or regional basis.

During the same period, the Resources Panel of the Northern Ireland Council for Continuing Education was finalizing a report for DENI on the utilization of cultural and other resource centres in programmes of continuing education. The Resources Panel, chaired by G B Thompson, Director of the Ulster Folk and Transport Museum, had a membership representing DENI, the Area Education and Library Boards, the Public, University and Polytechnic Librarians (PUPS), the Public Record Office for Northern Ireland (PRONI), the Arts Council, the two national museums, the broadcasting organizations and local government. These bodies encompass an enormous range of resources, many of which are committed to some form of educational use. However, the Resources Panel felt that there was still great untapped potential in these resources as far as continuing education was concerned.

Like NICET, the Resources Panel emphasized the need for effective coordination in the use of existing resources, improved methods for information and dissemination, and centralized production facilities to serve the smaller or less well-endowed institutions. The Panel was particularly concerned about the early school leavers who appeared to be lost to all forms of cultural or educational activity and the report recommended that the museums and other institutions should pursue more imaginative, learner-centred or resource-based approaches in their educational activities.

The Resources Panel also argued for the systematic preservation of broadcast materials for archival or educational purposes and stated that there was a need for an archival system within Northern Ireland which could commission, preserve and disseminate audio-visual materials of historical, cultural or social interest.

The Resources Panel noted with interest NICET's proposals for a regional centre, stating that this might well identify with their information and resource production needs and that the major institutions represented on the Panel should be closely associated with the development of such a centre.

When these two reports were submitted to DENI, there were consultations between the

Department and the Chief Officers of the Area Boards and a formal proposal was made that CET should undertake a feasibility study. This was duly accepted by the Council and a six-month study was initiated in April 1977 with the following terms of reference:

'On the basis of the report of the Northern Ireland Committee for Educational Technology, "Planning for Educational Technology in Northern Ireland", June 1976:

(i) To review the main arrangements, actual and planned, in the school, further and higher educational, university and industrial sectors, and in the public libraries, museums and other resource centres, for performing the functions referred to in Section 3.2 of the report (including production of materials, information and advice, professional development and training, support services for materials and equipment).

(ii) To examine and cost the options for arrangements leading to the better coordination and performance at various levels of those functions, including consideration of the NICET recommendation of a regional educational technology centre.

(iii) To recommend a policy for the phased development of a preferred arrangement to meet the needs identified by NICET and the Resources Panel of the Northern Ireland Council for Continuing Education.'

With reference to (ii) above, the detailed costing of a regional unit has been deferred for further consideration. If the main outline recommendations of this report are accepted by DENI and the other principal parties in Northern Ireland, it is suggested that CET should collaborate with DENI to examine in detail possible courses of action and the financial implications.

The study and the findings

The present report comprises two main sections: Part One: Recommendations for Coordinating and Developing Educational Technology in Northern Ireland and Part Two: Current and Planned Arrangements for Educational Technology in Northern Ireland, which section contains the detailed information and expressed needs from which the recommendations in Part One are derived. The facts and the opinions set out in Part Two are drawn from an extensive range of consultations with individuals and organizations in the various sectors of education and training in Northern Ireland (see Appendix I) as well as from questionnaires and written submissions. Study visits were also made to England, Wales and Scotland to examine ways in which educational technology support services could be organized or coordinated on an area or regional basis and to consider whether aspects of these systems related to Northern Ireland needs.

Because of the time-scale of this study it was not possible to visit as many schools in Northern Ireland as might have been considered desirable but fortunately it was possible to draw upon earlier surveys by NICET sub-committees, the reports of the Northern Ireland Schools Curriculum Committee 'Resources for Learning Project' (McCavera 1973 and Voller 1973) and the findings of the current CET study 'Resource Organization in Secondary Schools', which embraces Northern Ireland.

A detailed examination of the aims and the processes of educational technology within the Northern Ireland educational system gives strong grounds for supporting the view that there is considerable scope for improving the professional support services and for the coordination of activities in three main categories:

(i) technical (equipment maintenance and repair, loan schemes, shared facilities)
(ii) information
(iii) creative (in-service training, curriculum development and renewal, resource production)

It is also evident that the problems and the solutions lie at three levels within the education system:

(i) at the classroom level (extending into the school system)
(ii) at the local level (extending into the Area Board system)
(iii) at the regional level (extending into the national system)

From this study it emerges that what is needed in Northern Ireland and what is eminently feasible, given the size of the region and the nature of its educational system, is a carefully developed network within which, at the various levels and in the various sectors, the component parts can operate most effectively. Within this network there is a need for some form of regional unit – not an aloof, prescriptive organization, but a supportive agency which can respond to local and regional initiatives and needs, offer certain higher levels of service, encourage and support collaboration between teachers, trainers and other professionals and develop systems for coordination and dissemination.

The study has raised fundamental questions about the relationships between educational technology, curriculum renewal, educational research and development and in-service training, activities which often follow independent lines of action even when their interests so clearly overlap or have implications for one another. In this report it is argued that these problems might be resolved if the wider concept of 'educational development' could be embraced, that is, a merger between curriculum development (the process) and educational technology (the means). It is hoped that these recommendations for coordinated action and support at several levels will facilitate practical developments. The ultimate test will be their contribution to learning.

SUMMARY OF MAIN RECOMMENDATIONS

1. At Area Board level, the schools, teachers' centres, advisory services and libraries should consider possible arrangements for sharing resources, encouraging more developmental work and providing a more systematic and wider range of in-service courses embracing educational technology and related activities (see 1.1 to 1.5).

2. The networks that have grown up within the education and training sectors for locating and exploiting teaching and learning resources should be more clearly identified and should be strengthened.

3. Steps should be taken at all levels to coordinate and support the activities of committees and groups concerned with in-service training, educational research, curriculum development, educational technology and resource provision. As a means to this end a Northern Ireland Educational Development Unit should be established (see 1.8).

4. The Area Boards should consider the possibility of operating their own equipment maintenance and report services and establishing area centres for local curriculum projects and resource creation (see 1.4.2).

5. The needs of in-service training in the concepts and practices of educational technology should be more carefully monitored, with the colleges and departments of education and the Educational Development Unit cooperating to provide sustained programmes of training and developmental work within schools, teachers' centres and the Area Board library service. (see 1.6)

6. DENI should consider the possibility of improving the provision of support for teachers by providing training and job opportunities for school leavers as audio-visual technicians, and for unemployed teachers or librarians as media resource officers. (see 1.2.2)

7. A working party should explore the possibility of adding copies of local BBC/UTV schools' programmes and documentaries to the Northern Ireland Educational Film Library. (see 1.12)

8. A working party should investigate the possibility of starting a Northern Ireland film archive as a job creation programme under the aegis of the Department of Manpower Services. (see 1.12).

PART ONE: RECOMMENDATIONS FOR COORDINATING AND DEVELOPING EDUCATIONAL TECHNOLOGY IN NORTHERN IRELAND

1.1 Introduction

Part Two of this report records in detail the current and planned arrangements for educational technology in the various sectors of education and training in Northern Ireland together with summaries of the needs expressed.

The study has revealed some interesting developments in educational technology support services. However, there are strong grounds for suggesting that there is considerable scope for improving the coordination of activities and the levels of service in the areas of training, information transfer, resource production and equipment maintenance and repair.

From this study it emerges that what would best serve the Northern Ireland educational and training system is a carefully developed network within which, at the various levels and in the various sectors, the component parts can most effectively operate.

This first section of the study maps out the network from the school level to the regional level and recommends ways in which this net may be further strengthened and developed.

1.2 The schools

(For background and expressed needs see 2.)

It is important that each school be so organized as to be able to exploit the available resources to the full and derive maximum benefit from the network.

1.2.1 Recommendations for sharing resources, support for staff, training

It is recommended that the Area Boards and schools should consider possible arrangements for :

(a) sharing resources within schools and encouraging the establishment of more resource centres

(b) sharing resources among schools by pooling some of the finances, points, equipment or ancillary staff to achieve 'multi-site resource centres' which would rationalize the distribution of resources, effect savings and give smaller schools access to the more sophisticated resources

(c) providing more support staff to free teachers from the 'non-educational' activities of setting up and maintaining equipment and the more routine aspects of resource production or management and information gathering (see 1.2.2)

(d) encouraging developmental work in curriculum renewal in teachers' centres and elsewhere, by giving the teachers involved appropriate time and status.

(The study revealed that heads of resources, etc, in many cross-channel schools hold Scale 3, 4, or even Senior Teacher posts with teaching loads of 50% or less.)

1.2.2 Recommendations for training audio-visual technicians and media resource officers
The provision of support staff to help with the acquisition, maintenance and production of resources has been cited by many as an incentive to change.

A number of schools have audio-visual technicians. Two City and Guilds audio-visual technicians' courses are currently in operation (see 5.5) and it is hoped that more technicians will be encouraged to apply for places.

It is recommended that DENI should consider the possibility for improving the professional support for teachers by providing job opportunities for school leavers as audio-visual technicians (with appropriate training) and for unemployed teachers or librarians as media resource officers (MROs) on the ILEA model (with appropriate retraining at, say, colleges of education *and* technical colleges).

Such appointments could provide a valued service in the schools and offer the individuals concerned the basis for further training or career opportunities.

1.3 The teachers' centres
(For background and expressed needs see 3.)

The importance of the teachers' centres to the educational technology network is that they can, within their various catchments:

(a) provide a focus for in-service training in educational technology and curriculum development activities
(b) collate and disseminate information about resources within and beyond the Area Board
(c) provide facilities for a higher level of resource creation than is possible in all but the largest schools
(d) provide equipment for loan or to 'pump prime' curriculum innovation.

1.3.1 Recommendation for teachers' centres
It is recommended that the teachers' centres management committees and Area Boards consider possible arrangements for :

(a) providing suitable induction and in-service training for teachers' centres organizers so that they have opportunities to learn more about the theories of educational technology and curriculum development, the processes of resource production and current applications of these in other parts of the Province
(b) making local teachers more aware of the resources in the teachers' centres and their potential
(c) ensuring that a suitable range of in-service courses in, or containing an element of, educational technology is included in the annual programmes
(d) making students on teaching practice more aware of the services available within the local teachers' centres (a note here for the colleges too)

(e) ensuring that the centres hold indexes of local resources and expertise. This work could most be easily carried out by resources panels and it would be advantageous to the network if there was a resources panel in every teachers' centre in the Province.

There may be merit in some centres developing certain specialisms – for example, there has been a suggestion that the new Armagh Teachers' Centre could serve as an urban studies' centre, something new to Northern Ireland.

The possibilities of Area resource centres are examined in 1.4.2.

1.4 The Area Boards' services

The Area Boards are vital links within the educational technology network in that they can ensure that educational technology is fully acknowledged and exploited by linking it into the administrative, policy-making and financial nets.

The Boards can also ensure that the developments and services within their schools and colleges, teachers' centres and libraries are fully coordinated.

1.4.1 Recommendations

It is recommended that each Area Board should consider the possible arrangements for :

(a) encouraging and supporting the idea of resource centres within schools as the most rational way of organizing resources
(b) encouraging and facilitating cooperation between neighbouring schools and colleges to ensure that there is rational distribution and use of the more expensive resources
(c) encouraging more teachers with shared interests to come together to develop curriculum materials that meet their common needs
(d) establishing an equipment maintenance and repair base and peripatetic service to schools (for background, etc, see 8)
(e) developing an equipment exchange system whereby under-utilized or unwanted equipment can be exchanged for other items, or for videotapes, and placed in schools where it is needed or in a centre from which it can be loaned out.

1.4.2 Area resource centres – a possible model

How are the above arrangements to be managed at Area Board level? The teachers' centres have the advantages of being teacher-based and near to the schools and they are therefore well placed to serve as sub-units in an Area resource organization. However, experience has shown that teachers' centres, to be effective in curriculum or resource development work, must have full-time organizers. As section 3.1 shows, at the present time only 50% of the teachers' centres have full-time organizers.

Northern Ireland Education and Library Boards and Teachers' Centres

Key

1 *BELFAST BOARD*

2 *SOUTH EAST BOARD*

3 *SOUTHERN BOARD*

4 *NORTH EAST BOARD*

5 *WESTERN BOARD*

■ *Teachers' Centre associated with an institution of higher education*

▼ *Proposed Area Resources Centre*

◉ *Teachers' Centre with a full-time organizer*

● *Teachers' Centre with a part-time organizer*

○ *Teachers' Centre in course of development*

It is necessary to establish whether all teachers' centres are to have similar functions and equipment levels or whether a principle of task hierarchy needs to be recognized.

Within an Area Board it may be that there will be two kinds of resource centre, the smaller, less elaborately equipped, and the larger, staffed and equipped as the Board's major curriculum development/resource production centre which might also be the base for the Board's equipment and repair services.

Such an Area resource centre might be run by a person whose responsibilities also include the duties outlined in 1.4.1 and coordination of the Board's in-service programme. To ensure continuity in this work and to attract someone of the required calibre it would probably be necessary to offer this post to a permanent career grade.

Initially the staffing for an Area resource centre might be:

coordinator
secretary
clerical assistant
reprographics technician
Board's senior audio-visual technician
audio-visual technician

Seconded teachers might act as part-time organizers, developing workshops, courses and resources to meet local curricular needs.

This centre might also be developed to serve wider community needs through its reprographics services, loans of Portapacks for community video, etc.

One Area Board is already planning a development along these lines. Within the other Boards there are already certain teachers' centres which could be developed to serve as Area centres. Most of the equipment and facilities required for such work already exist in these centres but in the majority of cases the staffing is inadequate to the task.

1.4.3 Area resources coordinator
If an Area Board does not feel able to adopt the model in 1.4.2 it is strongly recommended that the Board should consider designating a member of the present advisory team, a teachers' centre organizer or a part-time or seconded 'teacher-adviser' as the resources coordinator for the Area.

From both within and without the Board it is important to be able to identify immediately the individual whose duty it is :

(a) to initiate and coordinate in-service courses in educational technology
(b) to ensure that there is listing of equipment and facilities within the Board

(c) to liaise with and between teachers' centres, resources panels and act as an information officer on educational technology for education, youth services, etc
(d) to establish links with other organizations and individuals concerned with educational technology at regional and national levels.

Having said that, it is hoped that all advisers within the Area Boards would see it as part of their remit to encourage and support the development of educational technology.

1.5 The Area Board library services
(For background and expressed needs see 7.)

The importance of the libraries to the educational technology network is that they already have well-established nets of their own.

It is encouraging to find the extent to which the library services in Northern Ireland are already integrating audio-visual materials into the various collections and services and, where necessary, are reshaping and improving their accommodation, staffing or distribution systems to ensure a fast and efficient service to schools, etc.

It is also encouraging to be able to record the joint activities of staff from various libraries who are compiling lists of historical materials (see 7.4), lists of locally held resources and information bulletins (see 7.7). It is hoped that the libraries will continue to monitor information needs and develop the process of commmunicating information about resources held in local or regional collections.

The libraries generally take the view that they are in the business of disseminating information irrespective of the carrier medium. The study notes that some libraries are already committed to recording and banking radio and TV schools' broadcasts as a service to schools (see 7.5) and that some libraries have become involved with film loans (see 7.6).

1.5.1 Recommendations
It is recommended that the Area Boards and libraries might consider possible arrangements for :

(a) strengthening the links between the library services and the advisory teams and teachers' centres so that existing and projected activities are coordinated and given due publicity
(b) enabling students in teacher training to become more fully aware of the libraries' potential for providing local studies and other support materials for the classroom: study visits prior to teaching practice and 'information packs' might be developed to meet this need
(c) encouraging teachers to make fuller use of the audio-visual and other newer services of the libraries and facilitating feedback to gain stronger indications of future requirements

(d) enabling library staff to learn more about basic audio-visual and reprographic techniques, theories of curriculum renewal/educational technology and their implications for librarians.

1.6 Training

(For background and expressed needs see 5.)

It is evident that some of the interest in, and commitment to, resources and the newer ways of managing learning experiences have been stimulated by the colleges and departments of education who place considerable emphasis on resources and educational technology in their initial training courses.

Some teachers have also been influenced by useful short in-service courses offered by the colleges, universities, teachers' centres and DENI. However, the view was frequently expressed that there is a need for more systematic and widespread in-service training in the concepts and practices of educational technology (see 2, 3 and 7). This would apply not only to teachers but to teachers' centres organizers, library staffs and the organizers of youth, community and voluntary activities.

In-service training should be seen as part of an overall development strategy and should be related to a Board's long-term plans for achieving improvements in aspects of its provision, such as improving the levels of performance of literacy and numeracy, or introducing mixed-ability teaching, or establishing resource centres.

Although there will continue to be a need for specific training in educational technology (eg, at post-experience diploma level, and in the handling of equipment and the acquisition of particular skills) by far the most effective form of in-service training is that in which the teachers are given an opportunity to develop their own response, and where necessary their own materials incorporating that response, to some particular subject or area of concern in the curriculum. This workshop approach has the advantage of starting from the teacher's own involvement in his teaching and of leaving him with both fresh insights and the materials he needs for their application in the classroom. In the course of this activity he will also have acquired by experience an appreciation of the application of educational technology. For such training to be possible there must be available suitable facilities for the selection and creation of resource materials.

In the present economic climate, there is considerable advantage in making more in-service training school-centred and school-based. This generates a need for specially created print or audio-visual study materials to assist a limited force of trainers to maintain activity in many schools and to enable case studies of curricular changes or new teaching or learning methods to reach a wider audience.

The expertise and resources of the colleges and departments of education could be harnessed both to design courses and to provide the study materials, and arrangements need to be made for their participation in the Board's programme.

1.7 Regional level services

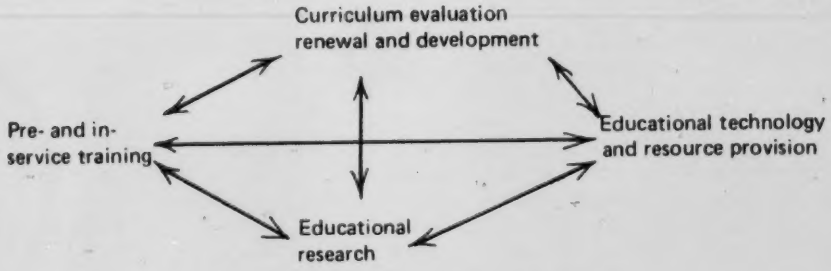
The study has shown that there are many educational functions which must operate at Area Board level, close to the teachers and in response to the immediate needs of the teachers and the current levels of demand.

At the same time this study has shown that for significant educational development to take place there is also a need for a system to operate at regional level. This system is required to provide services across the Province which it is not economic to provide at a more local level, to coordinate activities, and to offer an information exchange and facilities for the cooperative development and production of materials.

It is interesting to note that the Northern Ireland Schools Curriculum Committee is increasingly concerned with the need for more local initiatives in curriculum review and development, publishing curricular materials and improving methods of dissemination.

It is clear that existing curriculum project groups (see 4) and the educational services of the museums, the Public Record Office for Northern Ireland and other agencies committed to continuing education (see 11) are currently experiencing problems of access to high-level production skills. There is evidence of work held up and work not completed to satisfactory standards or otherwise failing to achieve aims because development teams could not afford to have their audio-visual specialists, graphic artists, photographers or good reprographic/printing facilities.

The need for such a service in relation to the more specific educational technology aspects (eg, the case for a unit offering more sophisticated material production facilities than those available to individual Boards) is paralleled by needs in relation to the coordination of in-service training, and the development of closer links between in-service training, curriculum development, educational technology and educational research. This relationship, in which each serves the other, has long been apparent,



and the concept of educational development puts the emphasis on their inter-relationship rather than on any artificial divisions between them.

1.8 A proposal for an Educational Development Unit

It is recommended that consideration be given to the establishment of a Northern Ireland Educational Development Unit.

The essential concept of the Unit is of a meeting point for the various strands of educational development, each of which is properly the concern of different bodies. The Unit would be able to offer these bodies – the Area Boards, the Northern Ireland Schools Curriculum Committee, Committee for Educational Technology, Committee for Educational Research and Committee for Continuing Education – support in coordinating their activities and support in carrying them out, particularly in the field of resource provision. It would also be able to respond to initiatives, developments and needs expressed by the DENI Inspectorate.

This Unit would be equipped and staffed to operate

(a) as an information centre linking the information services of the individual Area Boards, the colleges and university departments involved in the sphere of educational development, the museums, the Planetarium, the Public Record Office and other regional and local resource agencies
(b) as a coordinating centre for cooperative planning of in-service training programmes, curriculum development activity and resource provision
(c) as a source of special skills and production capacity
(d) as a source of technical data and advice on audio-visual and reprographic equipment
(e) as a liaison channel with educational development organizations elsewhere in the United Kingdom.

Certain aspects – eg, the provision of skilled graphic staff – the Unit itself would be staffed to provide, and it would have some facilities (in the way of high-quality high-output reprographics, for example) which would 'top up' the capacity of the individual Area Boards. But in other respects the Unit would operate as a facilitating mechanism. Thus, it could arrange for work beyond the capacity of one Area resource centre (either for reason of temporary overload or lack of a particular facility) to be undertaken by another. This clearing-house function could extend to the educational development staff and resources of the Province's universities and colleges. These highly qualified staff and high-level resources are, of course, primarily required for the purposes of their own institutions, but they frequently assist others on a 'good neighbour' basis. Provided their first responsibility to their own institution is safeguarded, a channel for coordinating such activity would be welcomed.

In this report, no detailed proposals for staffing and financing such a Unit are given. But as an indication of order of magnitude, a workable Unit would require two or three professional (academic) staff, two or three graphic designers, clerical assistance

and in particular, information and technical support staff. Arrangements could be made for the seconding of teachers to reinforce the Unit in areas where curriculum activity led to the need for teacher-editors of material.

A quite separate need exists in respect of the secretarial support required by the various Northern Ireland educational development committees (ie, those mentioned in 1.8 above). The work of each body would be greatly helped if it had a permanent secretariat; a common service could be provided within the Educational Development Unit, working under a liaison committee of the bodies served.

1.9 The relationship between NICET and the Schools Curriculum Committee
There are no discernible links between these two important Committees. In view of the fact that both are concerned with designing and evaluating curricula and learning experiences and with the problems of their implementation and renovation, it is recommended that there should be a closer working relationship between them, in the form of some cross membership and possibly in the form of joint working parties to facilitate innovatory activities and dissemination.

1.10 NICET and the Area Boards
There are grounds for suggesting that benefits could also accrue from closer links between NICET and the officers principally responsible for resources within the Area Boards – the senior education officers and the chief librarians. It is suggested that occasional meetings might be convened to afford these officers and the main officers of NICET opportunities for discussing matters of mutual concern in the field of educational technology.

1.11 Industrial and professional training
(For background and expressed needs see 13.)

Since more of the shaping of policy, course planning and resource requirements for the individual and professional training services in Northern Ireland can be met internally or through the services of the Training Executive (see 13.4 and 13.5) it is apparent that the main need in this sector is for information about resources and activities within the education sector and how these may be drawn upon if needed.

It is also likely that the education sector would gain from knowing more about the newer practices within the field of industrial and professional training.

In the area of careers and vocational guidance there is scope for joint production of resources by educational and industrial agencies.

1.12 Systematic preservation of broadcast and aduio-visual materials for educational or archival purposes
(For background see 9.6, 10 and 12.4)

It is recommended:

(a) that talks should be opened between DENI, the Northern Ireland Educational Film Library and BBC and UTV to investigate the possibility of 16mm prints of local educational and documentary programmes being added to the Film Library to give it a stronger regional flavour (see 9.6 and 12.4)

(b) that DENI should convene a small working party to investigate the possibility of starting a Northern Ireland film archive as a job creation scheme, as in Glasgow (see 10).

PART TWO: CURRENT AND PLANNED ARRANGEMENTS FOR EDUCATIONAL TECHNOLOGY IN NORTHERN IRELAND

2. THE SCHOOLS

2.1 Introduction

There are schools in Northern Ireland where resource-based learning has been introduced, with its emphasis on the individual child and on learning rather than instruction, but it has to be said that there is a ripple effect of change rather than a tidal wave.

However, the winning over of teachers to the ideas of employing the newer media, resources of learning, team-teaching and individualized learning must be regarded as a continuing process in which training, the impact of the younger teachers, the expertise and resources of various 'change agents' in the education system, moves towards mixed-ability grouping in secondary schools, and perhaps the implementation of comprehensive education, will make their influences felt.

2.2 Equipment

On the whole the Boards appear to be making generous provisions of equipment to schools. Video cassette recorders (VCRs) and colour monitors are becoming standard equipment in increasing numbers of secondary schools, there are pilot schemes to study the value of VCRs in primary schools and there has been a quickening of interest in the more sophisticated forms of reprographic equipment in schools.

Moves towards resource-based learning inevitably result in heavy, specific and immediate demands for resource production facilities. To meet immediate short-term needs these facilities must be near to hand. However, off-set litho equipment, electronic stencil scanners, photographic and closed circuit television (CCTV) production equipment are expensive and there may have to be some rationalization in the provision of these resources.

Concentrating the more sophisticated equipment in teachers' centres may be one answer, but many of the schools are some distance from these centres.

The possibility of forming schools consortia or 'multi-site resource centres' is currently being explored by at least one Board, larger schools being offered extra finance for such resources if they will agree to service feeder primary schools and other smaller institutions in the neighbourhood.

The view has also been put that a similar system might help schools who need the services of a full- or part-time library/resources assistant or audio-visual technician but do not have enough points to warrant this. By agreeing to form a consortium and amalgamating their points they may be able to gain the required ancillary staff to achieve a more flexible and rational use of their skills and services.

2.3 Materials

While it may be true to say that there is not a widespread demand for materials which reflect a general trend towards individualized learning, there is an increased use of a

wide range of materials in the more traditional classroom situation. This is true of the primary schools and the secondary schools, notably in local and environmental studies, the humanities, ROSLA and work for CSE.

In general, teachers tend to use commercially-produced materials but there is a growing amount of 'cottage industry' resource production. In the main this is print rather than audio-visual – work-sheets, study guides, facsimiles of articles and documents, etc – materials to complement the commercial resources in particular learning contexts. There are grounds for suggesting that more attention needs to be given to presentation, layout, visuals and the different levels of reading ability in some of the print materials produced by teachers.

There would appear to be relatively few examples of teachers with shared interests from different schools forming teams to plan and produce resource materials and there is probably considerable and unnecessary duplication of effort in the production of resources by teachers.

2.4 Innovation in schools

During the course of this study it has frequently been commented that few of the more publicized changes in the curriculum or developments in educational technology have penetrated into most of the classrooms of Northern Ireland. Others have argued that, lacking the organizational means either at individual school level or at Area Board level to help bring about these changes, teachers dissatisfied with the old curriculum and teaching strategies are not able to implement the new.

There are relatively few advisers in the Area Boards and some of these are heavily committed to administrative and management duties. 50% of the teachers' centres are run by part-time organizers, very few have audio-visual technicians and none has graphics staff.

While accepting the strength of the argument that changes must come from the classroom and from the teachers it is noticeable that the most significant developments in educational technology and curriculum development in other parts of the UK have taken place in those cross-channel LEAs where there are advisers in educational technology/curriculum development or centres acting as catalysts, coordinating and promoting new ideas and providing the necessary support services.

It is essential that teachers should be involved in planning and writing for resource production but above a certain level resource creation calls for special skills and becomes a highly labour-intensive task.

It was because of this that the Nuffield Resources for Learning Project envisaged the need for seconded teacher-editors working full-time with teachers in schools to develop materials for resource-based learning and the new curricular needs. This has been the model, for example, for the Avon Resources for Learning Development Unit at

Bristol and it is significant that one of the most successful of recent curriculum projects in Northern Ireland has been the Schools' Curriculum Project where seconded or short-contract teachers have developed curriculum materials out in schools – materials that have then been publicized and have enjoyed good sales. It is also interesting to note than when these teachers have left the Project to take up new appointments in schools they have continued to spread their ideas and enthusiasm and have involved their colleagues in the production of further learning materials.

2.5 Resource centres in schools

A growing number of schools in Northern Ireland would claim to have resource centres but, as in other parts of the UK, the term may be used loosely to cover an equipment store separate from the library and essentially serving the teachers' needs, or a media centre growing up independently of the library service, a development which can lead to the inefficient and educationally unsound use of resources.

A school library is a important part of a resource centre and in many ways a resource centre is a natural extension of school library activities, embracing audio-visual and other materials and adding the crucial creative function of producing home-made resources. Local schools introducing mixed-ability teaching have all stressed the importance of a well-equipped resource centre.

Most of the schools' resource centres which successfully combine the functions of a learning centre and a supplier of all forms of resources to support learners' as well as teachers' needs are, with one or two exceptions, to be found in Belfast and Coleraine/ North Antrim areas. It is significant that it was in these two areas that the Schools Council Resources for Learning Project operated during the early 1970s.

Most of the resource centres are in secondary schools but a few interesting examples have been developed in grammar schools or converted from existing spaces in primary schools.

In most areas of the Province, teachers are making increased use of work-sheets, study guides and other print and audio-visual materials, sometimes organizing these into topic boxes or departmental collections rather than on an institutional basis. It appears likely that more and more schools will see the advantages of a centralized storage or catalogue system in a period of economic stringency. Moreover, with the gradual breakdown of rigid boundaries between subjects, moves towards mixed-ability groups, individual learning by pupils, etc, the benefits from central storage of materials, such as the reduction of preparation time and the increase in the range of material available, should be obvious to many more schools.

SUMMARY OF NEEDS

Coordinated developments within Boards

There is a need for more coordination, sharing of ideas and cooperating with others in

the same field. In the absence of educational technology advisers within the Area Boards there is a need for a member of the existing advisory staff, a seconded or part-time 'teacher-adviser' or a teachers' centre organizer who can be immediately identifiable as the resource coordinator for the Board.

There is a need to encourage and support the idea of resource centres within schools as the most rational way of organizing equipment and materials within single institutions.

There is a need to encourage and facilitate cooperation between neighbouring schools and colleges to ensure that there is rational distribution and use of the more expensive audio-visual and reprographic equipment and a network of institutions that are prepared to share their resources with feeder primary and other local schools.

There is a need for more teachers with shared interests to come together in various parts of the Province and combine their expertise, skills and knowledge in the development of curriculum materials that meet their mutual needs. The advisers and teachers' centres have vital roles here.

Information at local level
There is a need for:

(a) more information about the availability of local equipment and expertise in educational technology so that inter-institutional loans, consultancy, etc, can be encouraged and supported. (The teachers' centres could have a key role in this work.)

(b) the production of far more local resources guides and the dissemination of information about locally held and locally created resources. (The teachers' centres could have a key role in this work.)

Technical services
There is a need for:

(a) more audio-visual technicians and/or library/resource assistants in schools

(b) improved equipment and repair services.

Staff release
There is a need to provide heads of resource centres or libraries and innovating teachers with more time for resources and curriculum development work.

Training
There is a need for:

(a) systematic in-service training, including school-based work, on topics such as resource centres, production techniques, etc

(b) the colleges of education and other tertiary institutions to work more closely with the Area Boards and make their resources and expertise more widely available.

Activities at regional level
There is a need for:

(a) the systematic dissemination of information about the existence, nature and availability of resources and information within museums, the Public Record Office, and the libraries, and within Northern Ireland's industrial and commercial organizations and government organizations

(b) a wide range of attractively and professionally presented resources that relate to the physical geography, social history, ecology, etc, of Northern Ireland, involving teachers in planning or production to meet the curricular requirements

(c) case studies on the development and use of resource centres in Northern Ireland

(d) some organization at regional level to provide objective information and advice about equipment and services.

3. THE TEACHERS' CENTRES

3.1 Staffing

In common with their counterparts in Great Britain, the teachers' centres in Northern Ireland have recently experienced some staffing difficulties. Economic restraints have resulted in the loss or the freezing of ancillary staff appointments and some of the centres have only had the services of part-time organizers. Of the 14 teachers' centres in Northern Ireland:

7 are run by full-time organizers
7 are run by part-time organizers
10 have the services of full-time secretarial/clerical staff
4 have the services of part-time secretarial/clerical staff
2 have the services of full-time technicians
1 has the services of a part-time technician
None has the services of a graphics designer/photographer.

Future easing of economic restraints may make possible the appointment of more ancillary staff and the restoration of full-time organizers. With declining enrolment in schools it remains to be seen whether in all cases the more able teachers will be willing to apply for secondment to these two-year or three-year posts and thus possibly put their promotion opportunities at risk.

The importance of the teachers' centres to the educational technology network is obvious but at this stage it is difficult to anticipate what the precise functions of the various teachers' centres will be in the years ahead and whether they will develop as facilitators or as innovators.

3.2 Accommodation

The teachers' centres are variously accommodated in existing or obsolete school or college buildings or in temporary buildings. The centres at Coleraine and Londonderry are on university or college campuses. The Queen's centre is very near to the university. There are plans for new purpose-built teachers' centres to be included in the Southern Area Board library headquarters at Armagh and the Western Board divisional library headquarters at Enniskillen and Omagh.

SUMMARY OF NEEDS

Liaison

There is still a great need to make teachers more aware of the audio-visual and reprographic resources in the teachers' centres and their potential.

There is a need for students in training to be made more fully aware of the support services in teachers' centres. There may be scope for familiarization packs or study visits prior to teaching practice.

There is a need for closer liaison between the teachers' centres, the colleges and universities, NICET and other groups involved with educational technology.

Local network
There is a need for every teachers' centre to ensure that there is systematic information about the resources and requisite technical expertise in its locality. This work could be carried out by a resources panel and it would be advantageous if there was such a panel based upon every teachers' centre.

Training for teachers
There is a need for short skills courses in basic audio-visual or reprographic techniques and more advanced courses in educational technology, the production, use and evaluation of media. The teachers' centres have a key role in this work and it is hoped that they will increase the range and frequency of such courses.

Training for teachers' centres organizers
There is a need to provide special training and study visits for teachers' centres organizers so that on taking up their new posts they have a good opportunity to learn about the ideological ramifications of educational technology, the exploitation of equipment and materials and the developments and facilities that exist elsewhere in the Province.

Technical staff
There is a need for more technical staff to support the work of the teachers' centres and the exploitation of the existing resources. There may be a case for placing such staff in the Board's principle centres to perform a peripatetic role.

Information
There is a need for links between all the resource-providing agencies in the Province to be strengthened. Teachers' centres organizers have indicated that they see a need for:

- an index of equipment and facilities and their location in the Province
- an index of materials obtainable from colleges, schools and other centres in the Province
- an index of resources in Ulster museums, the Public Record Office, the Planetarium, etc
- an index of materials about Northern Ireland
- an index of local experts in aspects of educational technology who could be called upon for advice, consultancy, training, etc
- information about sources, costs, uses, compatibility and safety of equipment
- case studies of resource centres, curriculum projects, etc
- a common catalogue of forthcoming BBC and UTV broadcasts under thematic/subject headings.

Table 1. Accommodation for resources in teachers' centres

N = 14

ACCOMMODATION FOR RESOURCES	NO OF CENTRES	ACCOMMODATION FOR RESOURCES	NO OF CENTRES
Resources display room	9	Audio studio	2
Library or media collection	8	Television studio	2
Reading centre	1	Printing/reprographics area	8
Resources production workshop	5	Dark-room	5

Table 2. Access to facilities by teachers' centres associated with universities

N = 3

ACCESS TO	NO
Resources production workshop	1
Television studio	2
Audio studio	2
Graphics facilities	2
Printing/reprographics facilities	1
Dark-room	1

Table 3. Reprographic facilities in teachers' centres

N = 14

EQUIPMENT	NO OF CENTRES	EQUIPMENT	NO OF CENTRES
Ink duplicator	12	Electrostatic copier	6
Spirit duplicator	9	Xerographic copier	2
Offset duplicator	3	Electronic stencil scanner	12
Plate maker	2	Binding machine	6
Dry photocopier	9	Collator/jogger	5
Thermal copier	11	Laminator	1

Table 4. Audio-visual production facilities in teachers' centres

N = 14

EQUIPMENT	NO OF CENTRES	EQUIPMENT	NO OF CENTRES
35mm still camera	6	Audio-cassette multiple copying	3
35mm slide copier	1	Video-recorder	9
Slide/tape synchronizing equipment	8	Television camera	7
8mm cine equipment	7	Ricoh Synchrofax	4
Editor/viewer	5	Language Master	6

Table 5. Production of resources in teachers' centres

N = 14

TYPE OF PRODUCTION	NO OF CENTRES	
	ALREADY IN OPERATION	PLANNED FOR THE FUTURE
Slides or slide/tape	5	4
Film	4	2
Television	3	1
Multi-media learning packs	6	3
Print materials containing photographs and line illustrations	5	4
Worksheets, books, texts, for independent learning	6	2
Self-instructional courses/ programmes	1	1

Table 6. Other resource activities in teachers' centres

N = 14

TYPE OF ACTIVITY	NO OF CENTRES	
	ALREADY IN OPERATION	PLANNED FOR THE FUTURE
Preview of films and other audio-visual materials	7	1
Evaluation of teaching/learning materials	8	1
Library of non-book materials or resource loan service	10	–
Information bank of educational technology/resources	5	1
Production of guides on educational technology/resources	1	4
Courses in the selection and use of media	5	4
Courses in educational media design/production	2	4
Courses in resources centres and resources management	4	2
Courses in resource-based learning	3	3
Courses in academic gaming and simulation	5	–
Curriculum development projects	9	3

4. THE RESOURCES FOR CURRICULUM DEVELOPMENT PROJECTS IN NORTHERN IRELAND

4.1 The 14 regional directors or local coordinators of the most recent curriculum development projects in Northern Ireland were contacted for this part of the study. The projects were:

- Schools Curriculum Project
- Schools Council Health Education (13-18) Project
- Communications Skills in Early Childhood (3-6 years)
- Communications Skills in Early Childhood (7-11 years)
- Communications Skills in Early Childhood (Extension)
- Schools Council History 13-16 Project
- Medium Term Independent Learning in Physics
- Early Mathematical Experiences (3-5 years)
- Schools Cultural Project
- Schools Council Project on Statistical Education
- Geography and the Young School Leaver
- Schools Council Careers Education and Guidance Project
- Man: A Course of Study
- Developing Religious Education in Primary Schools

4.2 Asked what types of materials were produced in their projects, the teachers replied as follows:

printed materials	14
audio-visual materials	10
mixed media packs	5

4.3 Asked what specialists they would have found it useful to have had access to, the teachers replied as follows:

graphics artist	9
photographer	10
television cameraman	1
reprographics or printing specialist	8
audio-visual specialist	8
programmed learning consultant	2
independent learning consultant	2
computer consultant for evaluation	1

4.4 Asked what facilities or systems would help in future curriculum development projects; the teachers indicated that they would like to see presentation of the final materials match the high standard of content, that there was a need to decrease the gap between the teacher-produced and the professionally-produced materials and that there was a need for some of the work-load to be lifted from the teachers.

The teachers indicated that they could see value in someone or some organization at Area Board or regional level taking the teaching kit through from original manuscript stage to finished published product. The usefulness of curriculum development consultancy and of someone well-versed in copyright procedures were also mentioned.

Some of the teachers indicated that they would have liked the services of a graphic designer or photographer at the teachers' centres where the project work was being carried out, others that, as long as these services were accessible and open to use by curriculum development teams, the location was not so important.

5. TRAINING IN EDUCATIONAL TECHNOLOGY AND MEDIA RESOURCES

5.1 Pre-service training of teachers

Although the actual arrangements differ from institution to institution, the three colleges of education, the two universities and the Ulster College all include the theory and practice of educational technology within the various teachers' certificate and degree courses.

The theoretical study of educational technology may be pursued at higher levels in various optional courses within the colleges while at the Queen's University of Belfast Department of Education, educational technology may be studied at MEd level.

Other one-year or shorter courses for student teachers include resource management at St Joseph's College of Education, the use of broadcast materials in the classroom at St Mary's, television, film and other resource production at Stranmillis College, Ulster College and the Education Centre at the New University of Ulster and a course on museums in education at Stranmillis.

Further options in learning resources and media communications are currently being planned.

All of the institutions have made special arrangements for students to practice basic audio-visual and reprographic techniques and apply these skills to the production of resource materials for teaching practice.

Micro-teaching is well established in the teacher training programmes and there is a growing use of TV in other skills analysis situations.

5.2 In-service training of teachers

While the more recently trained teachers may be more able and ready to use a wider range of resources and strategies in the classroom it would appear that within the teaching profession at large there are many misconceptions about educational technology.

NICET, the colleges and departments of education and some of the teachers' centres have mounted a number of well-planned and well-attended courses and conferences on aspects of educational technology over the last few years. However, there is a general belief that more intensive and systematic planning of in-service courses is necessary if the principles and practices of educational technology are to be communicated to a more representative range of the teaching profession. Part of the strategy for this must be a large increase in consultancy and school-based courses.

The argument has been repeatedly put forward that the provision of equipment and materials has not, save in a limited number of cases, been sufficiently matched by the provision of training. Without this, the potential of these resources will not be fully appreciated or exploited.

While there is a strong case for extending the number and range of courses in the basics of equipment handling and school resource production, there is an equally strong case for mounting more courses about the ideological and practical ramifications of educational technology, resources for learning and resource centres. At both of these levels educational technology will be most successfully introduced when it can be seen to be related to the needs of the learner, the teacher and the curriculum and not exclusively equipment dominated.

Finally, it should be said that many teachers are encountering educational technology through in-service part-time BEd degrees. There may be a case for other award-bearing courses in educational technology, advanced diplomas or diplomas of educational technology on the model of the Scottish colleges of education.

5.3 Courses in librarianship

The librarianship courses offered by the Department of Library and Information Studies at the Queen's University of Belfast include sections on the acquisition, storage, organization and retrieval of non-book materials and a new media studies unit is currently being introduced.

It has also been proposed that a Certificate in School Library Studies course for teacher librarians should be introduced in Northern Ireland and that this might be based initially on Belfast or Londonderry. This matter is still under consideration by the Joint Board of the Library Association and the School Library Association and the Department of Education for Northern Ireland. This course would be specifically designed for serving teachers who, as part of their duties, are responsible for school libraries or resource centres. A major part of the course would be concerned with planning, designing, equipping, and managing school libraries or resource centres and with creating and exploiting audio-visual materials.

5.4 Loughry College of Agriculture and Food Technology

Loughry College offers agricultural courses at ANCA, OND, HND, graduate and post-graduate levels. Communications studies are an integral part of many of these courses and the College provides a course leading to a Diploma in Agricultural Communication which is specifically designed for agricultural or veterinary training or advisory staff.

The Diploma course includes educational technology, curriculum planning, audio-visual techniques and evaluation for formal and extension agricultural education.

Loughry College is also able to act as a 'resource centre' for the other two agricultural colleges at Greenmount and Enniskillen and also for the various agricultural advisory centres which have been set up around the Province. These centres are equipped with overhead projectors, slide projectors, dark-room and typing/reprographic equipment.

5.5 Technical training

Partly as a result of NICET's recommendations, the City of Belfast College of Technology and the Cregagh Technical College offered the City and Guilds 736 Audio-Visual Technicians Certificate courses on a part-time basis for the session 1975-1977.

A total of 19 technicians attended these two courses and the enrolment was entirely made up of schools' audio-visual technicians in full-time employment in the Greater Belfast area. The students attending these courses saw no prospect for promotion within their present posts as a result of qualifying. There were insufficient numbers to justify the repetition of the courses in 1976-1978, but it is hoped to run courses in 1977-1979. There is a desire on the part of the colleges to offer these courses on a full-time basis for school leavers (see 1.2.2).

In future technicians' courses, there may be an advantage in giving more emphasis to the management and exploitation of resources as well as to the basic skills and technical training.

SUMMARY OF NEEDS FOR IN-SERVICE TRAINING IN EDUCATIONAL TECHNOLOGY

There is a need for:

(a) a more intensive in-service training programme for teachers and teachers' centres organizers in the principles and practices of educational technology
(b) the resources and specialist skills within the colleges and departments of education to be channelled into more in-service and developmental activity
(c) more regular contact and closer cooperation between the teacher-training institutions and the Area Boards to ensure that in-service programmes meet local needs on a systematic basis
(d) more school-based work where colleges and departments of education make regular contact with schools, share in the identification of objectives and strategies and are on hand to provide consultancy or make available the college resources in response to specific and immediate problems in schools
(e) more advice for teachers on the setting up of resource centres at two levels – curricular and physical – although the two are inextricably interlinked
(f) teachers who are initiating schools' resource centres to have short secondments to schools where centres are already operating so that they may learn more about the functions as well as the physical planning of such centres
(g) closer cooperation between educational technologists and librarians to ensure that joint courses or consultancy on the organization and management of resources can be presented systematically.

6. COLLEGES OF FURTHER EDUCATION

There are 27 colleges of further education, many of them with several out-centres, across the Province.

The Technician Education Council and the Business Education Council will undoubtedly play a significant role in the planning of future courses and facilities, with the emphasis very much on the definition of objectives, the design of modular courses and teaching/learning situations, and the development of assessment procedures.

The colleges are very largely autonomous and self-supporting with regard to resources and their main needs for outside support are more likely to be in the areas of information, consultancy and in-service training for staff.

6.1 Learning by appointment

A unique service in Northern Ireland is the Learning by Appointment Centre at Bangor Technical College. Students may call personally or telephone to make their appointments, the time and length of which they choose themselves.

Programmes are made available in a variety of ways – through Autotutor, Bristol Tutor, Stillitron, cassettte or text. Courses which would not be offered by a conventional school or college – for example, Chinese, Russian and Portuguese – may be studied here. Tutorial assistance is available if required.

The main subjects available are Accountancy and Business Studies, Biology, Building Construction, Chemistry, Computers, English Language, Electricity, Modern Languages, Management, Mathematics, Mechanical Engineering, Medicine and Nursing, Physics, Statistics, and History.

Established two years age with a target of 200 students, the Centre currently has an enrolment of 180 students, two-thirds of whom are from the College or local schools and one-third of whom are members of the general public.

It is hoped that this interesting venture will become better known. Similar centres could serve a most valuable educational and social function elsewhere in the Province.

7. THE AREA BOARD LIBRARY SERVICES

7.1 Introduction

It is a great advantage to the Northern Ireland educational system that its five Area Boards are responsible for both the education and the library systems. This makes the networks for information and resource distribution much stronger and the undesirable duplication of services less likely.

All Boards' library services aim to provide a comprehensive service embracing a wide range of communications media. Each Board library headquarters is in effect in the process of developing into a major resource centre for its area with its centrally based collection of books, recorded sound, slides and filmstrips, charts, multi-media packs, etc, supported by accession lists and stock catalogues and freely available to education and other sectors of the community. Its distribution services connect directly with the users or through service points in all the major population centres.

Audio-visual librarians have been appointed to the service. Some of the library headquarters are handicapped by having only limited accommodation for audio-visual materials and related services but hopefully this will be remedied by building programmes planned for the immediate and the short term.

The bulk of the audio-visual holdings are in the library headquarters but divisionalization of some of the Boards' library services in the near future will facilitate the establishment of representative collections at more than one centre and help in the process of dissemination.

The libraries are endeavouring to match the curricular needs of the schools to form links with, and serve the needs of, young people outside the school system and to provide support for continuing education. Whereas 'visual aids' were formerly seen merely as part of the schools' library service, there is now a growing realization that audio-visual materials have a more general application and some revision of the organization is accordingly being made.

The libraries are providing a valued support service to school libraries and resource centres through short- and long-term loans, although in some instances this service may be limited for the moment to the primary sector. At reorganization in 1973 the various Boards inherited differing levels and forms of service so that, while there may be wide agreement on common goals, varied aspects of the library services are currently being developed or strengthened within the individual Boards.

Table 7. Non-book materials supplied by the Area Board library services

N = 5

LOAN SERVICES	ALREADY IN OPERATION	PLANNED FOR THE FUTURE
Original or facsimile historical or other documents	5	
Programmed texts		
Recorded music/speech/effects on discs	5	
Recorded music/speech/effects on audio-tapes/cassettes	4	1
Maps	4	1
Models		
Specimens		1
Slides or filmstrips	5	
Overhead projector transparencies	3	
Photographic prints	3	1
Wallcharts	4	1
16 mm cine films	2	1
8 mm or Super 8 loop films	3	1
Video tapes or video cassettes	1	2
Multi-media learning packages	4	1
Microforms	4	
Games	1	

Table 8. Reprographic facilities in Area Board library services

N = 5

EQUIPMENT	ALREADY IN OPERATION	ABLE TO DRAW ON SERVICE ELSEWHERE IN BOARD
Ink duplicator	5	
Spirit duplicator	2	
Offset duplicator	2	1
Plate maker	1	1
Dry photocopier	3	
Thermal copier	1	
Electrostatic copier	3	
Xerographic copier	2	
Electronic stencil scanner	2	1
Binding machine	2	1
Collator/jogger	2	1

Table 9. Audio-visual production facilities in Area Board library services

N = 5

EQUIPMENT	IN OPERATION	PLANNED FOR THE FUTURE
35 mm still camera	3	
8 mm cine camera	2	
16 mm cine camera		
Editor viewer for 8 mm/16 mm		
Dark-room facilities	1	1
Audio-cassette multiple copying equipment	3	1
Slide/tape synchronizing equipment	5	
Video recorder	3	
TV camera	1	1
Ricoh Synchrofax		
Language Master		

Table 10. Production of resources in Area Board library services

N = 5

TYPE OF PRODUCTION	ALREADY IN OPERATION	PLANNED FOR THE FUTURE
Slides or slide/tape	1	1
Film		
Television		1
Multi-media learning packs	1	1
Print materials containing photographs and line illustrations	1	1
Worksheets, books, texts for independent learning	2	1
Self-instructional courses/ programmes	1	

Table 11. Other resource activities in Area Board library services

N = 5

TYPE OF ACTIVITY	ALREADY IN OPERATION	PLANNED FOR THE FUTURE
Preview of films and other audio-visual materials	2	
Evaluation of teaching/learning materials	2	1
Courses in the selection and use of educational media		
Courses in educational media design/production	1	
Courses in resource management and resource centres		
Courses in resource-based learning		
Courses in academic gaming and simulation		
Curriculum development projects		
Information bank on educational technology/resources	2	
Production of guides on educational technology/resources	2	

7.2 Teachers' centres in libraries

The Department of Education and Science in *Public Library Service, Reorganization and After* (DES Library Information Series 2) has commented that 'When new facilities are being planned . . . there may be advantages in accommodating a teachers' centre in the same building as a major public library, and consideration should be given to this when circumstances allow. Teachers will derive considerable benefit from having a single main point from which to meet many resources needs and a teachers' centre will benefit from the constant accessibility on the premises of librarians able to advise on – and with some responsibility for – the many other bibliographic activities being undertaken for the education service.'

In Western Board, teachers' centres will be built into the new divisional library headquarters at Enniskillen (opening 1978) and the new Board library headquarters at Omagh and the Southern Board library headquarters at Armagh. The teachers' centres will be autonomous but able to share and draw upon the libraries' resources and expertise.

7.3 Topic packs

All the headquarters libraries will assemble topic or project packs for teachers on request, given a minimum of a week's notice. These are delivered to, or collected by, schools and although the information/retrieval skills of the library staff are used to the full, the teachers are always encouraged to make the final selection to meet their specific needs. This is most important as there should never be a situation in which the libraries attempt to limit or prescribe the choice of resources. The teachers, subject to expert advice and guidance, must be the final arbiters of what is suitable for their pupils.

7.4 Local history services

Growing interest in local studies is reflected in the libraries' involvement with local history collections, some of which cannot yet be fully exploited or even publicized as they are still being indexed and catalogued. It is hoped that the old urban and rural district council records currently held in PRONI may be 'repatriated' to the Boards to further swell these collections. A joint Public Record Office/Library Association working party is engaged in the work of listing and facilitating access to historical materials such as the 19th century *The Irish Builder*, old Ulster newspapers, maps of Belfast and various photographic collections in the Record Office and the museums.

7.5 Off-air recording support services

Three Area Boards have already taken steps to establish a service to help teachers who may have missed broadcasts, experienced poor reception or simply could not afford or justify the long-term retention of programmes.

In South-East Board this is done by Seacourt Teachers' Centre at Bangor. In Southern and Western Boards it is seen as a library function which slots neatly into the

libraries' other work and distribution systems. In all cases the services operate within the terms laid down by the BBC and ICTA in 1975.

It has yet to be established whether the schools will require anything more from this service than a short-term fall-back for programmes missed. If it emerges that the need is for the retention of a substantial part or all of the ETV output for the maximum permitted period of three years, the libraries' investment in videotapes will run into many thousands of pounds. Some rationalization of services between the Boards may then become desirable if the copyright problems can be resolved.

At least one library headquarters has acquired commercially-produced training programmes on video cassette with a view to developing a service to local industry. The same library holds VCRs for loan to schools or other organizations.

Further extension of these services by the libraries may be handicapped by copyright and licensing restrictions. To mount video playback services in libraries, particularly to assist Open University students, would appear to be an elegant solution at a time when economic restraints may prevent the Open University in Northern Ireland from initiating such a service, but the BBC, ICTA, and OU licensing agreements would appear to exclude the use of off-air recordings in public libraries.

7.6 Films

Views differ on the most efficient ways of improving film loan services in the Province. At least one Area Board library has acquired a number of films for free loan to schools.

The argument for avoiding duplications of service and concentrating the film collection in the Northern Ireland Educational Film Library hinge on the high cost of film and the essential inspection equipment.

The arguments for the Board libraries becoming involved to some extent with film are that:

(a) there is a case for banking films of specific local interest within a Board
(b) there is a case for banking additional copies of films that are known to be in heavy demand within a Board
(c) there is a case for libraries holding, possibly on a shared basis, films on librarianship, story-telling and other topics that relate to library functions
(d) since the Film Library is limited by its terms of reference to educational films, the libraries might acquire films for community use
(e) since Boards can save money by leasing films for GCE/CSE studies for twelve-month periods, there is a case for libraries distributing these through the established nets.

It is not within the remit of this study to comment further on this matter save to recommend that there should be adequate listing of films held in centres other than the Film Library to facilitate inter-Board loans.

7.7 Information systems

The importance of the Board libraries within the educational technology network is that they already have well-established networks, distribution systems and methods for information handling.

The Board libraries cooperate on a rota basis to produce and distribute a local government bulletin, a digest of news and comment from a variety of sources.

One library service has initiated a pilot scheme for locating and registering the materials within the schools around a local teachers' centre with a view to facilitating loans and access.

The library services have links with schools, youth clubs, hospitals, community groups and many other local nets as well as those networks at regional, national and international levels. They all have Telex facilities, some are already using computer services and they may all have access to Viewdata, Teletext and document facsimile transfer systems in the future.

Within Northern Ireland, the following groups have been identified as concerned with librarianship, resources and information systems:

- the Public, University and Polytechnic Librarians
- the Library Advisory Council
- the Association of Assistant Librarians
- the School Library Association
- the Joint Public Record Office/Library Association Working Party.

The need for links between the various library and information services to be strengthened has been recognized and the Library Advisory Council's constitution and role are currently under review. A new body may be formed in 1978 to represent all of these interests and it is hoped that NICET and this new body will resolve ways in which they might mutually benefit from formal contacts or working arrangements.

SUMMARY OF NEEDS

Local history

There is need for :

- source materials that relate to the local environment, local history, etc
- a register of current research, studies and resource development work in local history

- photographs and graphics facilities to be more widely available to libraries to enable them to add more slides and prints to their archival and local history collections.

Area resource production
There is a need for resource-making facilities within each Area to enable teachers to come together and make their own print and audio-visual materials which are of local relevance.

Regional resource production
There is a need for :

- a centre or centres where the resources can be made on a more professional basis
- a wide range of materials suited to all ages and abilities that express Northern Ireland's history, culture and environment and which are presented attractively and professionally.

Information
There is a need for links between the inter-library resource-production agencies to be strengthened.

There is a need for a unifying information flow :

- an index of equipment and facilities and their location in the Province
- an index of materials available from colleges, schools and other centres in the Province
- an index of resources in Ulster Museums, the Public Record Office and the Planetarium
- an index of materials about Northern Ireland
- an index of local experts in aspects of educational technology who could be called upon for advice, consultancy, training, etc
- information about sources, costs, uses, compatibility and safety of audio-visual equipment
- case studies of resource centres, curriculum projects, etc
- a common catalogue of forthcoming BBC and UTV broadcasts under thematic/subject headings.

Liaison
There is a need for :

- closer liaison at Area Board level between the advisers and the library services and at regional level between the Inspectorate and the library services in order that the developing services and resources may be appreciated and exploited

- students in teacher-training to be made more fully aware of the libraries' role in supplying resources to schools. There may be scope for familiarization packs or study visits prior to teaching practice.

Training
There is a need for :

- making teachers more aware of audio-visual and reprographic techniques and their potentials
- short basic skills courses in audio-visual techniques for library staff
- more advanced courses in educational technology for librarians, embracing educational and curriculum theory and the techniques for producing, using and evaluating the newer media.

8. EQUIPMENT SERVICING AND REPAIRS

8.1 Feedback from users

It is apparent that there is now a substantial array of audio-visual and reprographic equipment in the various educational and training establishments across the Province. Evidence suggests that there is a growing concern at school and at Area Board level about the present arrangements for servicing and repairing these items.

Service life depends upon many factors such as technical design, spares availability and not least, the viability of the source of supply.

Enquiries show that each major commercial supplier/repair depot has its share of good and bad customer reports and with the major dealers concentrated in Belfast it follows that the further one moves away from the city the more likely one is to encounter reports of delays and high charges incurred by the necessary transport, packaging, insurance, etc. Some schools complain of innumerable telephone calls, false promises from repair depots and inordinately long delays – up to twelve months in extreme instances – in the return of repaired equipment. Reprographic equipment is becoming an important resource item in schools and a major source of complaint because of a lack of efficient and economic servicing. One school quotes a bill for £74 for recent 'minor repairs' to an ink duplicator and thermal copier.

Such experiences can lead to under-exploitation of, and lack of confidence in, expensively acquired equipment. From the various views expressed it is clear that any practical moves to bring about an improvement in this situation will be welcomed by schools and other users and it is encouraging to note that the Area Boards are considering the possibilities of assuming responsibility for centralized equipment repair services.

8.2 Area Board plans for servicing and repairs

Belfast Education and Library Board plans to house an electronic and audio-visual servicing unit in the new extension to the College of Technology annexe at Millfield. It is envisaged that initially this service will be for the Belfast Area only but it is recognized that this could be extended to include the 'Greater Belfast' area in time.

North-East Education and Library Board plans to include the maintenance and repair of audio-visual and other equipment among the functions of its proposed Area resource centre at Antrim.

The other three Boards regard equipment servicing and repairs as a problem to be solved at Area Board level rather than through a regional service. There is a strong feeling within all five Boards that a single, centralized audio-visual/reprographic repair agency servicing the whole of Northern Ireland would not be a viable proposition. The arguments against such a system are that it would be too remote to be efficient and that the distribution and communication systems would be unwieldy.

There is considerable merit in the Boards developing their own centralized repair and servicing systems to meet their own particular needs. There is no reason why these services should be restricted to audio-visual and reprographic equipment and in a time of spiralling inflation the implementation of such services would be seen as a matter of some urgency.

Cross-channel experience would suggest that the establishment of such a service not only reduces delays, frustrations and loss of confidence in the equipment but results in increased use of equipment and reduced demand for new or replacement items.

The life of equipment and service costs need to be considered. *If a 10-year life can* be achieved, the eventual costs, with service charges, authoritatively estimated at 10% p a, will double. A 5-year life, however, will treble costs.

There is a strong case for concentrating test equipment and skilled technicians in a suitable base – an Area resource centre, a technicial college – but the advantages of a peripatetic service should not be overlooked. The Boards may wish to examine ways in which their vans and distribution systems could be employed for this because if technicians can travel, they can:

(a) carry out first-line repair work on-site in those establishments which do not have their own technicians. Experience in cross-channel LEAs shows that most faults are minor and capable of being corrected on site
(b) make routine inspections of other audio-visual equipment on site. An initial survey for a newly established service in one cross-channel LEA revealed that 10% of the audio-visual equipment in its schools was potentially dangerous through frayed leads, incorrect wiring, etc
(c) deal with reported faults that are not faults at all but operating errors. Visiting technicians are well-placed to provide on-site basic skills training and advice on the correct use of equipment.

In some cases it may be necessary for the Boards to negotiate with manufacturers or suppliers to obtain servicing agencies and technician training. If there is inter-Board agreement on standardized purchasing, the Boards will be in a stronger position to stress that the placing of orders might be conditional upon such agreements.

8.3 Servicing video equipment and language laboratory systems

For items such as video recorders and language laboratories it may still prove more cost-effective to use the services of the commercial organizations. At the time of writing the following prices are quoted by Northern Ireland suppliers of TV equipment :

(a) repairs to television receivers, monitors, VCRs, VTRs

Minimum charge	£5 – £11	+ materials
Hourly rates in workshops	£5 – £8	+ 8% VAT
Hourly rates on site	£6 – £8	

(b) service contracts on video equipment

Supplier A: 1 year contract charge calculated as 6% of purchase price + 8% VAT

Provides for fixed number of visits + emergency calls

Supplier B: 1 year contract calculated as 5⅓% of purchase price with annual increase of 1⅓% + 8% VAT

Provides for a fixed number of visits + emergency calls

Service charges include materials except CRTs, video heads.

(c) annual rental of video equipment

VCR	£123	special discounts for quantity
Colour receiver	£125	

(d) service contracts and repairs for language laboratories: prices as for video.

Video recorders require servicing to a high standard to ensure compatibility. This would be essential for any loans systems as outlined in 7.5 and 9.4.

Authorities appointing technical staff for this level of work will be competing with the trade and would probably have to appoint engineers at T4/5 grade. Add to this the cost of spares – put variously at between £1400 and £3000 – and it becomes apparent that it would not be economical for any Board to mount such a service unless it was intended that this should serve the other Boards on a shared cost basis.

Uncertainties about the future technologies of video recording are now leading ILEA and other LEAs – and some Northern Ireland Boards – to favour the hiring of recorders. The existence of so many rented recorders within certain Boards would now seem to make the idea of a centralized repairs service less viable. However, if this course of action was preferred to dealing with the commercial organizations, the Millfield workshops with their highly sophisticated technical services would appear to be the most suitable base for this work.

8.4 Basic audio servicing

The LASSET papers (*Local Authority Support Services for Educational Technology, CET, 1977*) price bench, meters and spares for basic audio servicing at £100+ but this only applies if standardized purchasing has been in operation for a number of years. Lack of standardization will incur larger spares holdings, more service manuals, more courses for technicians, etc.

Commercial costing in Northern Ireland

Hourly rates: £6 – £8 + mileage charge where appropriate.

8.5 Reprographic equipment

LASSET gives an example of a reputable cross-channel firm quoting £256 for repairing a duplicator – a repair which was in fact effectively carried out by a T2 technician. The work called for no new parts or special test equipment. It took four hours and at 1976 rates that meant that the work was carried out for less than £7.

This may be an exceptional case, but lesser examples of benefits from authorities employing their own servicing staff are by no means uncommon.

LASSET indicates that T2/T3 technicians should be able to operate at least first-line service on reprographic equipment.

Commercial costing in Northern Ireland:

Service contracts	£21 – £70 p a depending upon equipment
Minimum charge	£8 – £12
Hourly rates	£6 – £8
	Mileage charge outside Belfast

8.6 Technical staffing for servicing and repairs

The experience in cross-channel LEAs suggests that two technicians at T3/4 and T2 would be the minimum establishment to provide an equipment maintenance/repair service in any of the Area Boards.

It may be difficult to recruit technical personnel with the necessary versatility to cope with the wide range of equipment already in the schools, libraries, etc. Inter-Board cooperation may help to resolve this problem. For the future the problem would be eased by Boards encouraging schools to buy from lists of recommended equipment (see 8.8).

Other functions of Area Board technicians could include :

(a) modifying and linking commercial apparatus so that it meets educational requirements
(b) developing and installing experimental teaching/learning systems
(c) discussing the purchase and use of items on a recommended equipment list with teachers, etc, should such a system be adopted
(d) assisting with courses for schools' audio-visual technicians.

8.7 Service contracts

If there is doubt as to whether an Area Board work-load would justify full-time additional staff appointments, there may still be a case for negotiating a service contract.

In one LEA visited in England a servicing agent was hired on a contract basis. The authority tendered for a flat rate irrespective of the distance covered by the contractor.

The agreed contract was for an hourly rate of £4.75 with a discount on spares, guaranteed service within 48 hours and the replacement of equipment taken away for repair. The servicing agent was offered a three-year contract so that he could take on extra staff.

The scheme is working well. Charges are debited to the schools and fewer than 1% of the repairs have called for arbitration.

8.8 A technical evaluation/information officer for audio-visual equipment
It would appear that there is very little standardization in audio-visual equipment within the Province and many of the people interviewed indicated that a reliable equipment evaluation and pricing service would be welcome.

At national level the CET User Specifications and NCAVAE technical reports schemes operate to provide data on new equipment and several LEAs operate their own schemes of recommended lists of equipment for schools. In such schemes, the final decisions may still rest with the schools but the authorities may insist on the schools paying for all spare parts in the event of their sending non-standard items into the authority for repair.

It would appear that the Boards in Northern Ireland are no less anxious than their cross-channel counterparts to preserve their autonomy in actual purchasing but it seems that a Province-wide information service is needed and that there should be established the post of technical evaluation/information officer.

This officer could be based upon a regional centre, if established, or in one of the Area Boards – possibly Belfast. The person appointed could have the following duties :

(a) liaising with all cross-channel agencies involved with equipment evaluation
(b) liaising with all local suppliers to compile data about equipment, servicing, etc
(c) carrying out equipment evaluations to diagnose technical, educational and operational merits and demerits
(d) producing recommended equipment lists in time for annual requisitions
(e) operating a technical advisory service for all five Boards.

9. NORTHERN IRELAND EDUCATIONAL FILM LIBRARY

9.1 Introduction

The Northern Ireland Educational Film Library is financed by the Department of Education and administered on behalf of all the Boards by Belfast Education and Library Board.

For several years the Film Library suffered from under-capitalization but during the past two years there has been a substantial injection of capital enabling new titles, multiple copies and replacement copies to be added to the 16mm collection. New film inspection equipment has been installed to improve this service further.

9.2 Film loans

The demand for films continues to grow and loans from the Film Library are now *pro rata* at about the same level as the Scottish Central Film Library. This increase in the use of film is in line with the experience of cross-channel LEA film libraries, save in those areas where schools are experiencing severe financial restraint. Earlier expectations that film use would decline as video established itself are far from being realized.

Film Library stock at March 1977

SUBJECT	No	SUBJECT	No
Arts/Crafts	34	Human Health/Hygiene	74
Biology/Natural History	188	Mathematics	25
Civics/Occupations	51	Modern Languages	16
Commerce	7	Music	23
Domestic Science	17	Physical Education/Sport	86
English	65	Road Safety	9
Geography	248	Science	146
History	73	Gifted	150

Total number of titles	1212
Additional copies	332
Total number of films in stock	1544

Film loans January – December 1976

	BELFAST BOARD	NORTH-EASTERN BOARD	SOUTH-EASTERN BOARD	SOUTHERN BOARD	WESTERN BOARD	TOTAL
Primary	1700	605	543	143	139	3130
Secondary	1974	1782	1609	1515	756	7636
Grammar	428	164	156	164	228	1140
F E and Univ	234	116	164	85	52	651
Hospitals	197	22	30	103	137	489
Youth Clubs	25	0	2	0	0	27
Miscellaneous	371	81	188	44	87	771
	4929 (35.6%)	2770 (20%)	2692 (19.4%)	2054 (14.8%)	1399 (10.1%)	13844

9.3 Distribution

Apart from a small handling charge, films are supplied free to schools and other educational and youth services.

Film is an expensive resource and it appears advisable to maintain this centralized service for educational films.

However, it is apparent that there is less of a demand for the Film Library's services in the more distant schools and some users suggest that postal costs and delays and a general feeling that the Library is remote from the users may prevent this service from being fully exploited.

It is recommended that:

(a) investigations might be carried out to see if there is substance in these claims
(b) there could be an examination into alternative distribution systems, including Securicor delivery to service points, the use of Board library vans, etc. Many cross-channel film libraries have found van delivery a more efficient and economic proposition
(c) the Film Library might consider ways of making its services better known and further promoting interest in film and its potential in the classroom.

How effectively this medium is being used is still open to further study.

9.4 A video cassette library service

If the Film Library is to continue to develop its services it is essential that it has the best of the new educational productions and it is hoped that the Department of Education will continue or even extend its financial support.

With all five Boards now standardized on Philips VCRs the Film Library may wish to add commercially-produced video cassettes to its service.

Rank and other major film distributors now offer titles on video cassette as an alternative to 16mm film. The main advantage of this format is that it makes it possible for a library to make short-term copies of popular titles from the master tapes. This ensures that existing stock in the library does more work and that schools can obtain copies when they need them rather than when they are available.

Such an arrangement involves the library in an additional fee (50% or less of the purchase price p a) but this is far cheaper than purchasing extra 16mm prints of titles in heavy demand. Some cross-channel LEAs are combining to insist that any distributor unwilling to provide such a licence system cannot expect to make sales of new titles.

9.5 Ulster Television's holding of video cassettes

It is worth noting that UTV holds a stock of 28 Philips video cassette recordings of the schools' series 'This Island About Us' and 'Let's Look at Ulster', complete with original booklets, and that they are keen to find a permanent home for these cassettes.

The Film Library may wish to make these the basis of a video cassette collection. Alternatively, they could be housed in one of the Board libraries. It is essential that these cassettes should be banked in a centre where they are capable of maximum exploitation.

9.6 16mm films about Northern Ireland

There is strong evidence that teachers and librarians would welcome a wider range of resources that relate to Northern Ireland.

It is encouraging that the Film Library has recently been able to acquire 16mm prints of films of local interest from Queen's University (a 17-minute film about W B Yeats) and from Stranmillis College (a 35-minute film about the Ulster Museum). It is hoped that this form of cooperation can be further developed with the parties involved identifying common needs and ways of sharing costs. Even silent films with accompanying notes might be acceptable for some areas of the curriculum.

Further sources of supply well worth exploring are the local broadcasting organizations. This study revealed a willingness on the part of both BBC Northern Ireland and UTV to discuss the possibilities of placing 16mm prints of Northern Ireland schools' programmes and some local documentaries in the Film Library. This would give longer life and wider currency to valuable and in some cases unique material (see 1.12 and 12.4).

There is clearly a need for up-to-date films about Northern Ireland and it is recommended that the Department of Education should consider the allocation of an additional annual sum to enable the Northern Ireland Educational Film Library to reflect more strongly regional interests and regional culture.

An annual allotment of between £2000 and £3000 should permit the purchase of about 15 twenty-minute programmes a year.

10. FILM ARCHIVAL WORK

During a visit to the Scottish Council for Educational Technology in Glasgow it was possible to see something of the work of the Film Archive which has been in operation for a year as a job creation scheme.

10.1 Staffing and costs

The scheme provides employment for 1 librarian, 1 technical assistant and 1 clerical officer who compiles the 'shot lists'.

It is estimated that this service can be run for £10,000 p a. This does not allow for any film purchasing or copying. A further £5000 p a will enable 'safe' prints to be made from the unstable nitrate film used before 1951 and a limited amount of filming to be undertaken for archival purposes.

All the film has been gifted. The film may come from old film libraries, missionary societies, private and commercial sources, old cinemas or the broadcasting organizations – even programme trims and lengths from the cutting room provide valuable archive material.

10.2 Equipment and facilities

A 16mm/35mm Steenbeck editing table makes an expensive but ideal viewer as it ensures the safe traverse of the film and facilitates the shot listing with its fast wind, rewind and stop-frame systems.

As much broadcasting and amateur film is on reversal film, most archival film – whether it be 8mm, 16mm or 35mm – is in positive print form rather than negative.

Nitrate film is dangerous to handle and store. Laboratories may put a 100% mark-up on copying from nitrate film but safety film copies of valuable material guarantee long life. If the National Film Archive of the British Film Institute requires a film for its own archives it will make free or low-cost safety film copies in return for the original. Nitrate film calls for a special storage system of a fire-proof, compartmentalized stock room with a ventilation shaft to each compartment.

10.3 Recommendation

It is recommended that the Department of Education might consider similar activity as a job creation scheme in Northern Ireland and might establish a small working party to consider this matter further.

11. THE MUSEUMS, PUBLIC RECORD OFFICE AND OTHER AGENCIES

The National Trust

The Public Record Office for Northern Ireland

The Ulster Museum

The Ulster Folk and Transport Museum

The Ulster-American Folk Park

The Armagh Planetarium

11.1 Introduction

A vast and unique range of resources exists within or under the care of these institutions or organizations. Their educational services are relatively new but they have a growing influence on the educational scene, both through contact with individual teachers and by working with teachers' groups in teachers' centres.

It is widely accepted that it is essential to publicize the information and resources within these institutions and find ways of translating these into forms that will provide insights into Ulster life past and present, meet the curricular needs of schools, capture the imagination or interest of pupils and encourage more informed use of the buildings, sites and artifacts by both teachers and pupils.

11.2 Teacher training

It is essential that teachers have a thorough knowledge of the considerable resources and services which are available to them within these institutions and are thoroughly versed in ways of exploiting these facilities.

The museums and the Public Record Office are becoming increasingly involved with courses for practising and trainee teachers and there is scope for extending the present system by which colleges of education send their students to the museums for short courses.

The Public Record Office operates, and the Ulster Folk and Transport Museum should soon be operating, schemes for one-term teacher secondment, the purposes of which are to encourage selected teachers to become familiar with the resources and systems, study relevant subjects of their own choice and possibly experiment with materials or strategies and finally produce reports or resources which will facilitate the dissemination processes.

11.3 Production of resources and learning packs

The Public Record Office has produced a very successful series of packs containing facsimiles of historical documents in various topics. Staffing cuts make uncertain the educational activities of PRONI over the next few years unless further support for resource production can be provided.

The Ulster Folk and Transport Museum and PRONI combined with teachers at the Queen's University Teachers' Centre to produce a teachers' pack on 19th century Ulster houses.

The National Trust cannot itself produce teacher training or pupils' packs as it is not a body equipped for education. However, its information officer is encouraging the production of teachers' packs within local teachers' centres.

The various education and information officers are currently combining their skills to develop project packs to encourage and support local studies, social studies and fieldwork by colleges and schools. These packs will deal with various rural and urban environments, act as guides to related resources in the institutions and provide models for the techniques of research, fieldwork and classroom interpretation.

All of these officers wish to present their material to the best effect in a variety of media. Their most fundamental need is ready access to educational media design and production facilities of a professional standard, both to create the materials described above and to extend, develop and disseminate some of the continuing curriculum development work being done by the teachers with whom they work, in the various teachers' centres.

While there is widespread recognition of the need for increased activity in the area of resource creation there are very limited audio-visual production facilities within these institutions, and where there are design or photographic staff these are usually fully engaged on conservation, display or exhibition work.

By far the largest design department within the museum services is in the Ulster Museum. However, this department will be heavily committed to the permanent exhibition programme in the new museum building for another two or three years. The design department may then be free to produce publications, materials for schools or touring displays based upon the Ulster Museum collection. However, a decision to establish local museums in the Province might by then have been made and this could lead to an extension of their exhibitions programme so that it does not seem likely that the Ulster Museum's commitments would allow for much resource creation for outside agencies.

The Armagh Planetarium, unlike the above institutions, has no responsibilities for research or conservation so that it is essentially a specialized form of resource centre concentrating most of its energies on the fields of education and communication.

The Planetarium makes extensive use of pre-recorded and specially edited video material for display and lecture purposes and there are plans to produce special programmes in colour for schools and adult audiences. Access to the necessary colour editing equipment has been achieved by sharing the costs between the Planetarium and the Ulster College.

The Planetarium staff would welcome access to graphic design and photographic services to facilitate the production of a wider range of print materials for schools and continuing education. The services of display artists would also be essential for the Planetarium to extend its services to include touring displays to schools, public libraries, etc.

11.4 The Ulster Architectural Heritage Society

The UAHS is concerned to find ways of reaching members of the general public and of making them more aware of Ulster's architectural heritage.

The Society sees great potential for stimulating interest at schools level and has already supplied slides and outline text to support work by the School's Curriculum Project and the Institute of Education, Queen's University, Belfast.

The Society would welcome access to other curriculum projects and resource production facilities. It has access to a great deal of information and expertise but with its limited resources and finance it would require design and media production support and additional finance to develop resources for schools.

11.5 The Arts Council

The Arts Council engages in and coordinates a wide range of cultural activities and strategies throughout the Province.

The Arts Council has no education officer and at present does not run an educational resource centre. A fine-print workshop is currently being set up in the headquarters building but the appointment of a full-time graphic designer or photographer could not at present be justified.

It is seen as highly desirable that schools should have a wider range of slides, tapes, packs, etc, representing the work of Ulster artists and craftsmen. It is noted that such materials are simply not to be found in any of the Province's public libraries and educational resource collections.

It is also noted that the desirability of including questions about Ulster and Irish artists in the GCE art appreciation papers is currently being discussed and that this would inevitably call for new resources.

11.6 The Sports Council for Northern Ireland

The Sports Council for Northern Ireland exists to further the interests of sport and physical recreation in the Province. It currently has the governing bodies of 94 sports on its books.

The Sports Council holds catalogues of sports films, it grant-aids video equipment to governing bodies for training programmes – golf, judo and boxing are among the heaviest users of video for skills analysis – and in the future it may develop a bank of

audio-visual equipment for loan to organizations which cannot afford or justify the purchase of the dearer items.

Although there are many commercially-produced materials on sport from national sources, many of the concepts of sport and recreation are new to Northern Ireland and there may be value in producing local materials for schools, libraries, etc, to spread the new ideas and skills.

The Sports Council at present produces its own posters, displays, photographs and graphics but the pressure on its services are such that any advance into the resource production described above would require further support.

11.7 Road Safety Branch, Department of the Environment

It is seen as highly desirable by the Road Safety Branch that there should be produced for use in Northern Ireland new types of safety education materials that fall between the nationally- and individually-produced materials currently used in the classroom.

The Chief Road Safety Officer serves on the national Resources Advisory Committee which has been established to improve the existing standards of resources for safety education and it is seen as a logical step to support a similar arrangement at local level.

New materials will be shortly available from Reading University and the production of supplementary local resources is envisaged for a whole range of new courses and to provide support materials for RUC personnel visiting schools.

These programmes and materials will be developed by safety education officers and teachers working in curriculum groups and media production and design support will be required.

SUMMARY OF NEEDS

From this study it is clear that there is considerable scope and need for these organizations and possibly other agencies such as the Northern Ireland Forestry Service, the Fisheries Branch, the Historic Monuments Branch, etc, to maximize the potential of their resources and expertise and to :

(a) assist established groups, eg teachers' centres, curriculum development groups, etc, in the production of materials for specific courses, projects and curricula
(b) identify untreated areas and topics for which materials could be most usefully produced and produce such materials at a teachers' centre or interest other groups in such production.

To facilitate this activity, which would serve a most valuable function in the educational system in Northern Ireland, there is a need for :

(a) easy access to graphic, photographic and media production services
(b) finance for the production of multiple copies which can then be sold to schools, possibly at cost
(c) a system for effectively publicizing and distributing such materials
(d) a system for evaluation and feedback so that where necessary the materials can be modified for re-runs
(e) related in-service training to enable teachers to discuss and make effective use of these structured or unstructured materials.

12. THE BROADCASTING ORGANIZATIONS

12.1 Output

BBC Northern Ireland and Ulster Television are valued sources of material related to the needs of Northern Ireland colleges and schools.

In their outputs the two services complement each other:

For 6-7 year-olds UTV produces 'Hop, Skip and Jump'
For 7-9 year-olds BBC produces 'Green Peas and Barley O'
For 10-13 year-olds UTV produces 'Let's Look at Ulster'
For 10-13 year-olds BBC produces 'Ulster in Focus'.

Ulster Television transmits 10 new +10 repeated/updated 20-minute schools' television broadcasts a year.

BBC Northern Ireland transmits 12 new +10 repeated/updated 20-minute schools' television broadcasts a year and 45 new +15 repeated/remade schools' radio broadcasts a year.

The use of VCRs in schools will undoubtedly influence the exploitation of these resources in the classroom but it may be too early to predict how successfully pre-recorded material will be integrated with other resources to serve the curriculum. More study is required and these developments are being carefully monitored by the services' two education officers who work closely with the colleges, the schools and other organizations such as NICET, the Council for Continuing Education, etc.

12.2 Publications

Very few schools' broadcasts can stand on their own and there is concern in both organizations that whereas in the past Northern Ireland always came out relatively well in the sales of support literature compared with other regions of the UK (800 copies of the chart accompanying 'Let's Look at Ulster' alone were sold) there is now a marked fall-off in sales of teachers' and pupils' notes. Both organizations are very keen to see their programmes as 'springboards' with teachers planning their own additional support materials and follow-up activities.

It is interesting to note that the BBC is adopting a new policy with this coming year's broadcasts, producing publications which will not only support broadcasts but will also have a function beyond the actual transmitted programmes and it is hoped that teachers will buy these booklets for class library use and not simply for the programmes. This addition to the range of publications relating to the Province is to be welcomed and with growing interest in Northern Ireland in humanities studies in schools in the UK and the Irish Republic, there could be a large market for these materials.

12.3 Access

Both broadcasting organizations are exploring the possibility of greater access by teachers to broadcasting. It is interesting to note that UTV's new series 'Hop, Skip and Jump' will be piloted by all teachers' centres to give teachers their say in the programme development and will feature schools' work in the final programme (with badges to the children as added inducement) to involve teachers in feedback. Another interesting local experiment has been the BBC's financial granting of a secondary school so that its pupils could produce a Radiovision programme for transmission.

It is encouraging to note that UTV is combining with the Department of Manpower Services to produce a programme series called 'Want a Job?'' which is aimed at :

- school leavers searching for their first job
- young persons and adults who are interested in further study and training
- housewives, indicating that there are educational opportunities which could lead to ways of supplementing family income.

It is also possible that, partly as a response to initiatives taken by the Publicity Panel of the Council for Continuing Education, UTV will be producing four programmes about the resources provided within the library services, the museums, the colleges, etc, and their potential for continuing education.

12.4 BBC, UTV and the Northern Ireland Educational Film Library

Further exploitation of the local television programmes which are of high educative value and in some instances of outstanding filmic quality, will obviously be made possible by the increased use of VCRs in the educational system.

However, there are strong arguments for also making at least some of these programmes more widely available on 16mm film through the services of the Northern Ireland Educational Film Library (see 9). Most local schools' television programmes are directed at the primary/lower-secondary sectors and it will be a long time before there are VCRs in all these schools. Also it can be argued that 16mm projectors are more easily borrowed and transported and more suitable for mass viewing.

Most BBC schools' television programmes are made on the 16mm dual band system so that it is technically possible to make 16mm optical sound prints from these as well as from local documentary programmes which can provide equally valuable educational resource material.

Ulster Television schools' programmes are filmed on 16mm colour reversal film and mixed, titled and dubbed on videotape so that it is not technically or economically feasible to make 16mm optical sound prints from these programmes. On the other hand, copies of excellent UTV evening documentaries such as 'The Book of Kells' and 'The Ulster Emigration' could be produced and banked in the Film Library.

It is understood that the local broadcasting organizations would be pleased to discuss the matter further with interested parties. It is strongly recommended that representatives of the Department of Education, NICET, the Committee for Continuing Education and the Northern Ireland Educational Film Library should discuss this matter with the broadcasting organizations, with support from CET at national level if necessary, to negotiate over copyright.

The current rate of supplying 16mm optical prints through BBC Television Enterprises is £12 per minute compared with the more usual commercial rate of £10 per minute but this may be negotiable at local or national level and it can be argued that even at the higher rate the Northern Ireland educational system would be getting some valuable resource material at a fraction of the cost of initiating it. It should also be borne in mind that the official life of video-recorded schools' broadcasts is restricted to three years but that through the medium of film it may be possible to acquire more permanent resources which in turn may be of future archival significance.

On a minor technical point: the BBC programmes have their titles and credits electronically superimposed during transmission to reduce costs. It should be possible to produce inexpensive title lengths for these films in one of the local colleges or universities.

12.5 An index of broadcast resources

The study records the popularity of the 'Index of Broadcasting Resources' published by the Scottish Council for Educational Technology and now in its fourth edition. This publication classifies under curriculum headings all the schools' output, radio and television, from BBC and IBA. From the additional information in an alphabetical index, the teachers are able to narrow down still further their investigations to determine which series are likely to be appropriate to the needs of their pupils.

Such a common index must commend itself to busy teachers. Originally retrospective, the index will now be issued twice a year, in September and January, well before the schools' broadcasts begin. Its distribution is two copies per nursery or primary school and 8 copies per secondary school or college. The printing cost is 12p per copy.

To adapt this index to Northern Ireland's programme output would involve less than two days' work and the Scottish Council for Educational Technology would be pleased to cooperate in the compilation of a similar index for Northern Ireland.

12.6 Recommendation

There is evidence of an interest in such an index for Northern Ireland. It is therefore recommended that the Information Sub-Commitee of NICET should discuss this matter further with the local broadcasting organizations and examine the feasibility of a pilot scheme on a shared cost basis.

13. INDUSTRIAL AND PROFESSIONAL TRAINING SERVICES IN NORTHERN IRELAND

13.1 Industrial training – organization

Government responsibility for industrial training in Northern Ireland is expressed through the work of the Department of Manpower Services. Whereas in Great Britain each of the twenty-seven training Boards has its own administrative staffs, in Northern Ireland, because of its relative size and in the interests of economy, the system comprises a Training Executive operating under the Department of Manpower Services to provide centralized administrative, financial, secretarial and educational technology support services to nine Industrial Training Boards. These Training Boards provide courses and support for in-service training for management, supervisors and instructors.

The other wing of the Department of Manpower Services training operation comprises the Government Training Centres (see 13.11) which are concerned with initial training and apprenticeship.

13.2 The Training Boards

These nine Boards have within their scope some 23,000 firms employing over a quarter of a million people. They are :

- The Construction Industry Training Board
- The Engineering Industry Training Board
- The Catering Industry Training Board
- The Clothing and Footwear Industry Training Board
- The Man-Made Fibres Production Industry Training Board
- The Textiles Training Board
- The Road Transport Industry Training Board
- The Distributive Industry Training Board
- The Food and Drink Industry Training Board

All but the smallest firms must pay a levy which entitles them to the Training Boards' services. Alternatively, they can provide their own training programmes and claim levy remission of up to 100%.

13.3 Training needs analyses

The Boards formulate the criteria against which to measure the quality and the quantity of the training programmes mounted by individual firms and prepare the schemes of levy remission. The core of levy remission is, of course, the accurate identification of training needs and the Boards' schemes require each firm to prepare a training-needs analysis as a prerequisite of qualifying for remission.

An investigation into the difficulties encountered by firms in preparing training needs analyses (TNA) may reveal organizational problems of which management had been unaware and indicate that considerable time and effort had been spent in remedying

deficiencies. This underlines to firms the value of undertaking a task in totality rather than in a piecemeal fashion and it ensures that the organizational structure of participating companies is such that subsequent training will produce real benefit. The TNA system brings into sharp focus training needs and priorities at departmental, sectional and various employment levels in individual industries and at the same time provides comprehensive and accurate information about the training requirements of whole sectors of industry.

With additional government grants the Training Boards are also able to promote 'key training activities', improved training methods which are beyond the scope if individual firms, training which goes beyond the immediate needs of firms, and group training schemes.

13.4 The Northern Ireland Training Executive

The Training Executive affords Training Boards, collectively and individually, the advantages of a greater degree of coordination and rationalization. Based in Belfast, the Training Executive is part of a network linking the Boards and industry, the Government Training Centres and education in Northern Ireland and the training organizations in Great Britain.

To formalize and widen the scope of cross-Board activities the Training Executive has a number of committees among which is the Audio-Visual Aids Committee.

13.5 Training Executive Audio-Visual Aids Committee

The use of audio-visual systems by training staffs of Boards has expanded steadily over the years. The Training Executive has built up a comprehensive bank of equipment including 16mm cine and overhead projectors, Portapack and mobile CCTV systems. Boards and industry may draw upon this bank or commission technical support with the more sophisticated systems. The Boards and industry also have access to a fairly extensive library of 16mm industrial and management training films and a smaller collection of video tapes.

The Audio-Visual Service is run by a full-time Audio-Visual Officer recently appointed at the rank of Senior Training Adviser. He is directly responsible to the Assistant Director of the Training Executive to provide efficient and economical operation of these central services, to produce materials that meet specific training needs and to identify and meet staff training and retraining needs in educational technology.

The system of training the trainers facilitates the dissemination of new ideas and spreads the distribution of skills in the network.

At the present time the emphasis is very much on 'resources for the trainers' rather than 'resources for learning' but it is foreseen that future trends towards short-term and contractual employment may increase the need for continuous cycles of retraining and that in such a situation economically-produced and quickly assimilated learning packages may come to have a greater role in industrial training

13.6 Print resources
The Training Executive produces training manuals and other print materials for the Training Boards and industrial concerns and its central typing pool and reprographic facilities are staffed and equipped to an appropriate level.

13.7 Links with education
The Training Boards, the Training Executive and the Government Training Centres have contributed to closer links between industry and education with the result that there is more appreciation of each others' needs. The outcome has been that centres and further education colleges now provide new courses designed to supplement practical training and some longer-established courses have been remodelled and updated.

All Training Boards have careers guidance and a fostering of links with secondary schools and technical schools as part of their remit. Industry sometimes makes use of TV facilities in higher education but there is little evidence of the Boards calling upon the educational technology expertise or experience within the education sector.

13.8 Audio-visual resources within the Training Boards
With the Training Executive's equipment and materials support services and the individual Boards' own holdings of basic audio-visual equipment and specialized 16mm films, slides, working models, etc, the Training Boards would appear to be well provided for. Many of the training staff accept basic audio-visual techniques as an integral part of their group presentations and there are experiments with Portapacks and extensive use of TV for skills analysis.

The Construction Industry Training Board has developed a mobile unit to ensure that safety training and other half-day or full-day courses can be made available on any site in any part of the Province. An articulated lorry has been specially converted into a travelling classroom with a seating capacity of up to twenty-five. This mobile classroom is equipped with presenter's desk, with in-built overhead projector, projection and display screens, a projection booth housing 16mm, carousel and slide/tape facilities and a virtually silent liquid gas generator for sites with no mains power facilities. This service is very much in demand and the vehicle is out on the roads at least three days a week.

13.9 Research and further training activities
The Training Executive and Training Boards are concerned with training research and development. Here they may call upon the universities or other external agencies.

The future training of training staff is intended to consist of basic training including a high level of training in job analysis followed by modular courses ranging through management development and industrial relations to educational technology and visual aids.

13.10 Individual industries

Some of the larger firms in Northern Ireland use film, slide/tape, video and other audio-visual systems for management, supervisory and plant training but to what extent and how well these are integrated into the overall training programmes must await a more detailed study than time for this report allowed. It would appear that video is largely used for skills analysis and that games and simulation have a role in systematic problem-solving and management training.

Many of the firms will depend on commercial packages or on their parent companies for their training programmes but safety training, pre-retirement courses and the introduction of new pay, benefit or pension schemes may demand some form of in-house resource creation.

16mm film is probably still the most commonly used medium. Industrial concerns in Northern Ireland are able to use the Lambeg Industrial Research Association as a regional preview centre for Rank films. About 80 titles of sales, supervisory, industrial relations, management and safety films from the Rank Industrial Films catalogue are banked at Lambeg where they may be previewed for £5.00 prior to hiring from England.

The Lambeg Industrial Research Association is also one of the very few organizations in Northern Ireland producing its own 16mm optical sound films and with its own in-house facilities for this work.

13.11 The Government Training Centres

There are thirteen Government Training Centres (GTCs) in various parts of Northern Ireland and these provide practical training in engineering and construction for 16-18 year-olds.

13.12 Instructor training

Instructors for GTCs are trained at the GTC Instructor Training College which also trains instructors for the prison service, the Department of the Environment, Enterprise Ulster, the hospitals service, the hotels and catering industries, etc.

The instructors' courses include basic and advanced-level work in objectives, instructional procedures including the use of visual aids and programmed learning, developing skills in trainees and assessment procedures. Television recording and playback for skills analysis is an integral part of these courses which also make use of film and videotaped 'model performances'.

The course design team coordinates and standardizes all the GTC courses throughout Northern Ireland. The team supports its own resources needs through the production of videotapes, slide/tape programmes, slides and overhead projector transparencies or the acquisition of commercial programmes.

The Government Training Centres are well equipped with audio-visual resources including overhead projectors, 16mm projectors, episcopes, loop projectors, slide projectors and facilities for making in-house slide/tape programmes.

13.13 Other training organizations in Northern Ireland

13.13.1 The Northern Ireland Electricity Service Training Centre

The NIES is well equipped to harness audio-visual resources to its training needs. CCTV is used for skills analysis in instructor training, sales training, staff selection and interview techniques, management development, committee work and effective speaking.

The Centre has its own training staff but it may draw on the expertise and skills of other organizations such as the Public Service Training Committee.

The Centre has its own film library which includes films on instructional techniques, the principles of electricity sales and supervisory skills and management development. Its staff also produce a limited range of in-house training materials in video, slide/tape and animated overhead transparencies.

13.13.2 The Northern Ireland Civil Service Training Branch

The Training Branch offers management training and staff training courses for all departments of the Northern Ireland Civil Service. Its courses are aimed at all grades between Deputy Secretary and Executive Officer. Induction and in-service training for clerical grades and specialist staff operate through training branches within individual departments but the Civil Service Training Branch does run training courses for departmental trainers.

The Training Branch runs about two hundred courses a year for some two thousand course members. Interaction is the main model, with courses in management skills, recruitment, promotion and job appraisal interviews, communications skills, etc. CCTV is used for skills analysis on these courses and for the production of 'model performances' and other training programmes. The Training Branch has its own film library and it also makes use of feature films for attitude, role and interaction analysis.

13.13.3 The Public Service Training Committee

The Public Service Training Committee provides management training for local government, the Northern Ireland Housing Executive, the hospitals, etc. Much of this work involves role play, skills analysis and video replays. The Committee does not yet have its own TV resources for this work and it usually works through other organizations' facilities.

SUMMARY OF NEEDS

Resource production
There are overlapping needs in the area of careers which could be met by cooperative resource production by educational and training organizations.

Information
There is a need :

(a) for a catalogue listing all the industrial and professional training films held in various centres in Northern Ireland to facilitate preview, in-house viewing, loan, hire, etc

(b) to make the Lambeg preview service better known to educational bodies who might wish to use Rank training films

(c) for an equipment evaluation service

(d) for a directory and/or information service to facilitate consultancy, equipment/material loans, cross-fertilization of ideas, etc, between education and industry in the Province. It was stressed that in the present economic and security situation it was not always easy to draw on cross-channel expertise and that greater self-sufficiency is necessary.

Technical
There is a need :

(a) to improve the arrangements for audio-visual equipment repair services in Northern Ireland

(b) for a facility for dubbing from videotaped training programmes that originate from the United States.

APPENDIX I. A LIST OF ORGANIZATIONS AND INDIVIDUALS CONSULTED DURING THE STUDY

A In Northern Ireland

1 *Department of Education for Northern Ireland*

Mr J Creighton	Staff Inspector, In-Service and Curriculum Development
Mr N Morrison	Staff Inspector for Further Education
Mr C F Fitzgerald	Senior Inspector for History
Mr E Decorte	Staff Inspector for School Building
Mr T J Shaw	Inspector for Geography

2 *Belfast Education and Library Board*

Mr W C H Eakin	Chief Education Officer
Mr W J Patterson	Senior Education Officer
Mr I A Crawley	Chief Librarian
Mr M D M Rea	Secondary Education Adviser
Mr G Moag	Education Officer, Further Education
Mr L Parker	Assistant Chief Librarian (Youth Services)
Dr W F K Kerr	Principal, City of Belfast College of Technology
Mr C Caldwell	Headmaster, Cairnmartin School
Mrs A Long	Teacher in Charge of Resources, Cairnmartin School
Mr T MacMullan	Resources Organizer, Orangefield Boys' Secondary School
Mr E McArdle	Head of Resources, St Louise's Comprehensive College

3 *South-East Education and Library Board*

Mr M Gledhill	Chief Education Officer
Mr T Nolan	Senior Education Officer
Mr D H Welch	Chief Librarian
Mr A L Sherrard	Professional Assistant
Mr E Woods	Environmental Studies Adviser
Mr T Morwood	Primary Education Adviser
Miss S Latham	Assistant Chief Librarian (Youth Services)
Mr J Partington	Librarian
Mrs B McGimpsey	Organiser, Seacourt Teachers' Centre, Bangor
Mrs A Brown	Organiser, Rathvarna Teachers' Centre, Lisburn
Mrs M Connolly	Organiser, Downpatrick Teachers' Centre

4 *Southern Education and Library Board*

Mr W J Dickson	Chief Education Officer
Mr G J Kelly	Senior Education Officer
Mr T R Oakes	Education Officer
Mr W R H Carson	Chief Librarian
Mr R Dougan	Assistant Chief Librarian (Central Services)
Mr S Anthony	Organizer, Craigavon Teachers' Centre
Mrs P McGaffin	Organizer, Armagh Teachers' Centre

5 *North-East Education and Library Board*

Mr R J Dickson	Chief Education Officer
Mr R A Hamilton	Senior Education Officer
Mr J P E Francis	Chief Librarian
Mr M B Clarke	Secondary Education Adviser
Mr M Fletcher	Music Adviser
Mr V O'Hara	Assistant Chief Librarian (Youth Services)
Mrs M Kane	Area Schools and Colleges Librarian
Mr F Agnew	Organizer, Coleraine Teachers' Centre, NUU
Mr D Hassan	Organizer, Ballymoney Teachers' Centre
Mr W Smyth	Organizer, Antrim and District Teachers' Centre

6 *Western Education and Library Board*

Mr M H F Murphy	Chief Education Officer
Mr J D McClelland	Senior Education Officer
Mr R T A Farrow	Chief Librarian
Mr F B Horisk	Education Officer
Mrs R Jackson	Assistant Chief Librarian (Central Services)
Mr J Craig	Organizer, Londonderry Teachers' Centre
Mr R J L Kerr	Organizer, Enniskillen Teachers' Centre

7 *Northern Ireland Schools' Curriculum Committee*

Prof W Kirk	Chairman
Mr C F Fitzgerald	Secretary

8 *Schools Examination Council for Northern Ireland*

Mr M A Atkinson	Secretary to the CSE Board
Mr S W W Mercer	Secretary to the GCE Board

9 *Northern Ireland Council for Educational Research*

Dr J A Wilson	Director
Dr B J Spelman	Research Officer

10 *Northern Ireland Committee for Educational Technology*

Dr W F K Kerr	Chairman
Mrs D Abraham	Information Sub-Committee Convenor
Mr R Ferris	Resources Sub-Committee Convenor
Mr G Wilkinson	Training Sub-Committee Convenor
Mr M Sinnerton	

11 *The Queen's University of Belfast*

Prof C B Radford	French Department
Prof H R Cathcart	Department of Further and Professional Studies
Dr F Curragh	Department of Education
Mr K G Dalton	Department of Education
Mrs D Abraham	Organizer, QUB Teachers' Centre

12 *New University of Ulster, Coleraine*

Mr H McMahon	Director, CAMOL Project
Mr D Cranston	Lecturer, Education Centre
Mr D W Daly	Lecturer, Education Centre
Mr J Voller	Lecturer, Education Centre

13 *Institute of Continuing Education, Magee College, Londonderry*

Mr R MacGabhan	Head of Learning Resources

14 *Ulster College*

Dr O M White	Pro-Rector, Academic
Mr B Hill	Head of Continuing Education
Mr P J Conway	Academic Registrar
Mr G B Baggett	Librarian
Mr M Sinnerton	Head of Educational Technology
Mr G Wilkinson	Senior Lecturer in Educational Technology
Mr C Wilkinson	Principal Lecturer in Educational Studies

15 *Stranmillis College of Education, Belfast*

Mr J Pomfret	Principal
Mr J Hughes	Deputy Principal
Mr J D Cameron	Principal Lecturer, Education Department
Mr J Greenwood	Principal Lecturer, Education Department

16 *St Mary's College of Education*

Mrs P McCusker	Deputy Principal
Mr J Quinn	Head of Learning Resources

17 *St Joseph's College of Education*

Mr J Nolan	Deputy Principal
Mr J McCann	Director of Learning Resources

18 *The Open University in Northern Ireland*

Mr G MacIntyre	Regional Director
Mr W Lindsay	Deputy Regional Director

19 *Association of Principals of Colleges Executive*

Mr G M Jardine	Bangor Technical College
Mr H McIlwaine (Chairman)	Armagh Technical College
Mr J Bell	Antrim Technical College
Mr S Smyth	Ballymena Technical College
Dr D Dickson	Ballymoney Technical College
Mr J Ellis	Newcastle Technical College
Mr A McKinley	Larne Technical College
Mr T Donaldson	Rupert Stanley College, Belfast

20 *Loughry College of Agriculture and Food Technology*

Dr R Stevenson	Head of Communications Department
Mr J McIvor	Lecturer, Communications Department

21 *Learning by Appointment, Bangor Technical College*

Mr G M Jardine	Principal
Mr J C Emerson	Tutor
Mrs I Carnduff	Programmed Learning Assistant

22 *Irish National Teachers' Organization*

Mr G Quigley	Northern Branch Secretary
Mr C Lambe	Vice-Principal, St Patrick's Primary School, Belfast
Mr R B Neilly	Headmaster, Park Parade Secondary School, Belfast
Mr H Phillips	St Aidan's Secondary School, Glenavy

23 *Ulster Teachers' Union*

Mr B Toms	General Secretary, UTU
Mr A Anderson	Principal, Donegall Road Primary School, Belfast
Mr I Davidson	Principal, Killard House Special School, Newtownards

Mr F Devlin	Principal, Ballygolan Primary School, Belfast
Mr D Riley	Principal, Killicomaine Junior High School, Portadown

24 Association of Secondary Headmasters

Mr B Weston	Headmaster, Orangefield Boys' Secondary School, Belfast

25 National Association of Schoolmasters and Union of Women Teachers

Mr W G Herron	Secretary, NASUWT
Mr J Kennedy	Dunlambert Secondary School, Belfast
Mr F Kirkpatrick	Carrickfergus Secondary School

26 National Association of Teachers in Further and Higher Education

Dr J Harbison	Secretary, NATFHE

27 Directors or Coordinators of Curriculum Development and Research Projects in Northern Ireland

Mr J Malone	Director, Schools Curriculum Project
Mrs J Meegan	Schools Curriculum Project
Mr S J McGuffin	Schools Council Health Education (13-18 years)
Miss M J Matchett	Communications Skills in Early Childhood (3-6 years)
Mr R Waterman	Communications Skills in Early Childhood (7-11 years)
Mr B R Kelly	Communications Skills in Early Childhood (Extension)
Mr D J McCullough	Medium Term Independent Learning in Physics
Mrs I Jackson	Early Mathematical Experiences (3-5 years)
Mr A Robinson	Schools Cultural Studies Project
Mr G E Robinson	Schools Council Project on Statistical Education
Mr E Woods	Geography and the Young School Leaver
Mr J C Davidson	Schools Council Careers Education and Guidance Project
Mr R McKay	Man: A Course of Study
Br B Halpin	Developing Religious Education in Primary Schools

28 *BBC (Northern Ireland)*

Mr D Hammond	Schools Producer in Charge
Mr E Twaddell	Education Officer, Schools Broadcasting Council
Mr B Hardy	Film Unit Manager

29 *Ulster Television*

Mrs M Ellison	Education Officer
Mr A Crockhart	Television Producer

30 *Public Record Office for Northern Ireland*

Mr B Tarinor	Director
Mr W Crawford	Assistant Keeper with responsibility for Education
Mr T Parkhill	Research Assistant

31 *Arts Council for Northern Ireland*

Mr K Jamison	Director

32 *Ulster Museum*

Dr A McCutcheon	Director

33 *Armagh Planetarium*

Mr T Murtagh	Director

34 *Ulster Folk and Transport Museum*

Mr G B Thompson	Director
Dr A Gailey	Deputy Director
Mr P Wilson	Education Officer

35 *The National Trust for Northern Ireland*

Mr J E C Lewis-Crosby	Secretary

36 *The Ulster Architectural Heritage Society*

Mr D Evans	Joint Honorary Secretary

37 *The Sports Council for Northern Ireland*

Mr M Crabbe	Head of Administration
Mr A Tyndall	Press and Information Officer

38 The Joint Public Record Office/Library Association Working Party

Mr M S Buchanan (Convenor)	South-East Library Board
Mr B Trainor	Public Record Office (Director)
Mr W H Crawford	Public Record Office
Mr T Parkhill	Public Record Office
Mr S McMenamin	Public Record Office
Mr G Slater	Public Record Office
Mrs R Adams	Western Library Board
Mrs H Frazer	Belfast Library Board
Mr R Dougan	Southern Library Board
Mr J R R Adams	Linen Hall Library
Mr E Hayes	North-East Library Board
Mr N A G Nicholls	North-East Library Board
Mr H Russell	Belfast Library Board
Mr P B Wilson	Ulster Folk and Transport Museum

39 Northern Ireland Audio-Visual Librarians Group

Mr R McKeown	Southern Library Board
Miss A Dakin	Ulster College Library
Miss S Fitzpatrick	St Mary's College of Education Library
Miss H Taylor	Northern Ireland Health and Social Services/Queen's University Medical Library
Miss G McSourley	Western Library Board
Mr R Brunt	Department of Library and Information Studies, QUB
Mr C Cochrane	Department of Library and Information Studies, QUB
Mr J Erskine	Stranmillis College of Education Library
Mr G Glen	South-East Library Board
Mr J Partington	South-East Library Board

40 School Library Association (Northern Ireland Branch)

Mr N Weatherall	*Branch Honorary Secretary*
Mr J Erkskine	Stranmillis College of Education

41 Northern Ireland Department of the Environment

Mr L A Sinfield	Chief Road Safety Officer

42 Northern Ireland Civil Service Training Branch

Mr J Crowther	Chief Training Officer

43 *Northern Ireland Public Service Training Committee*

Mr G Beamish	Management Services Adviser

44 *Northern Ireland Training Executive*

Mr G McMaster	Director
Mr J Craig	Assistant Director
Mr I Hull	Audio-Visual Aids Officer

45 *Government Training Centre Instructor Training College*

Mr L McBride	Head of Course Design Team
Mr W McBride	Tutor Instructor Training
Mr W Neagle	Tutor Instructor Training

46 *Northern Ireland Construction Industry Training Board*

Mr G Darragh	Construction Centre Superintendent
Mr B Walker	Training Adviser
Mr J Smyth	Training Adviser

47 *Northern Ireland Road Transport Industry Training Board*

Mr H Hutchinson	Training Manager

48 *Northern Ireland Electricity Service Training Centre*

Mr N Jackson	Training Centre Supervisor
Mr W Hyndman	Training Officer
Mr J Macatasney	Assistant Training Officer

49 *British Enkalon*

Mr C Simpson	Company Training Officer

50 *Standard Telephones and Cables*

Mr J Beasant	Training Officer

B In England, Scotland and Wales

1 *Wiltshire County Council Library and Museum Service*

Mr K Wood	Assistant Director

2 *Hereford and Worcester Resources Centre*

Mr J F Foster	County Adviser in Educational Technology

3 *University of Exeter Department of Education*

Mr J Ruck	Librarian and former co-director of Exeter Regional Resources Centre
Mr M J Golby	Lecturer in Curriculum Studies
Mr J Heaps	Warden, Exeter Teachers' Centre

4 *Avon Resources for Learning Development Unit, Bristol*

Mr P Waterhouse	Director
Mr D Foster	Science Teacher-Editor
Mr G B Hughes	School of Education Research Unit, University of Bristol

5 *Surrey Media Resources Centre*

Mr P Turner	General Inspector for Educational Technology

6 *Oxfordshire Audio Visual Aids Centre*

Mr G Griffin	Audio-Visual Aids Adviser

7 *Inner London Education Authority Centre for Learning Resources*

Mr L Ryder	Director of Learning Resources
Mr P Weiss	ILEA Learning Materials Service
Mr R Gretton	Publishing Centre, ILEA

8 *Stantonbury Campus, Milton Keynes*

Mr M Grant	Deputy Headmaster

9 *Hounslow Visual and Aural Aids Services to the London Boroughs of Barnet, Brent, Ealing, Enfield, Haringey, Harrow, Hillingdon, Hounslow and Richmond upon Thames*

Mr D E Harman	Visual and Aural Aids Adviser
Mr O W Herbert	Technical Officer

10 *County Programmed Learning Centre, St Albans, Herts*

Mr W J K Davies	Director

11 *Department of Education and Science*

Mr M Edmundson	H M Inspector

12 *Scottish Education Department*

Mr M Roebuck	HM Inspector

13 *Scottish Council for Educational Technology*

Mr R B Macluskie	Director
Mr D Bruce	Depute Director
Mr R N Tucker	Senior Assistant Director
Mr B Durkin	Adviser
Mr J MacKechnie	Librarian/Information Officer
Mr J Brown	Assistant Director
Mr M Jackson	Head of Booking Department, Central Services
Miss J McBain	Job Creation Programme, Film Archive

14 *Central Regional Council, Stirling*

Mr J K Sinclair	Adviser in Educational Technology

15 *Grampian Regional Council, Teachers' Resources Centre, Aberdeen*

Mr D Mennie	Resources Development Officer

16 *College of Librarianship Wales, Aberystwyth*

Mr R Lonsdale	Lecturer
Mr T Evans	Head of Media Studies

17 *Educational Technology Centre, Mold, Clwyd*

Mr I C Jones	Coordinator
Mr L Ellis	Deputy Coordinator
Mrs L McCann	Librarian
Mr J I Owen	Media Productions Manager

APPENDIX II. FURTHER REFERENCES

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